Gleanings in Bee Culture

August, 1947 Vol. 75, No. 8

Does the Queen Make the Colony?

By A. R. Mallory

Does the queen govern the bees or do the bees govern the queen? Most beekeepers express the belief that the strength of the colony of bees is an indication of the prolificness of the queen which heads it. When a yard of bees varies considerably in strength and amount of surplus honey gathered, we are inclined to blame our queen breeder for shipping us inferior queens.

How much of the blame is rightly his? I am of the opinion that at least 50% of the blame for the failure of some queens to produce is due to a series of factors over which the beekeeper has little or no control.

To bear out my statement I will use as an example a yard of bees which was established by making up nuclei to which a group of apparently identical queens was introduced. These 25 nuclei were made up as nearly equal as possible, each consisting of two frames of emerging brood, one good frame of honey, several empty combs, and sufficient bees to insure that the brood would not be chilled.

The results in two month's time were typical of what is usually found in any yard of bees. Two were very strong, ten were good, eight were fair, three were poor, and two had been united with others. I believe the following factors helped to account for this variation:

1. **The inability of the beekeeper to make all nuclei identical when establishing them.**

   It is impossible for the beekeeper to choose the proper balance of guard bees, nurse bees, etc. This accounts for the fact that some nuclei organize the colony and stimulate the queen into production more

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rapidly than others. This condition can also be found when introducing queens to well established hives.

2. **Variation in combs in which the queen starts to lay.**
   Queens certainly show a preference for certain types of combs. If a frame of brood in a relatively light comb is used to start a nucleus, the new queen will not fill it as rapidly as she would an old, dark pollen comb. In making up these nuclei, it is impossible for the beekeeper to choose identical combs of brood.
3. **Variation in the time it takes the bees to liberate the queen.**
   This factor is probably tied up with an uneven balance of the types of bees in the new hive. In any case we definitely know that some queens begin laying within a few hours while others have to be released by the beekeeper several days later. The queen that has to be released never seems to overcome the set-back she has received.
4. **Accidental injury or chilling while handling.**
   This usually can be controlled by the beekeeper. However, in some cases, queens are injured by exposure or accidentally pinched when frames are handled although the beekeeper may not be aware of this.
5. **The ability of some colonies to find a source of pollen or nectar not found by their neighbors.**
   This stimulation gives any colony a big advantage.
6. **The attitude of some colonies toward their queen.**
   Some bees will not readily accept a new queen. In certain cases queens are balled and injured permanently by the bees even several weeks after introduction. This usually occurs when the hive is disturbed. This trait is very hard to control and, as yet, not fully understood.
7. **The amount of available stores of nectar and pollen.**
   Some queens are inclined to reduce egg laying before the stores are in danger of being exhausted. Others will continue to lay until no food is available to feed the young larvae. This factor alone can make a great variation in colonies, especially in unfavorable seasons.
8. **A number of other factors, such as wind, exposure, drifting, poor equipment, shade, etc., can make a variation in the production of queens.**

We may assume that, in the case of the two very strong hives, the factors mentioned combined to create circumstances ideal for the maximum development of these colonies. It is possible that the ten good colonies did not have slightly inferior queens, but instead they encountered a set-back in one or more of these factors, such as a poor balance in the types of bees in the colony or in the time of liberation of the queen. An even more unfavorable combination of factors could have accounted for the condition of the remaining colonies in the yard.

With these factors in mind it hardly seems fair to always blame the queen for poor results after introduction. It is true that a queen breeder cannot control some conditions when producing queens and the queen may be inferior in some cases but neither can the beekeeper control the factors which stimulate the queen and control the development of the colony after her introduction.

Belleville, Ontario.

"I've got ten million hustlers workin' for me."

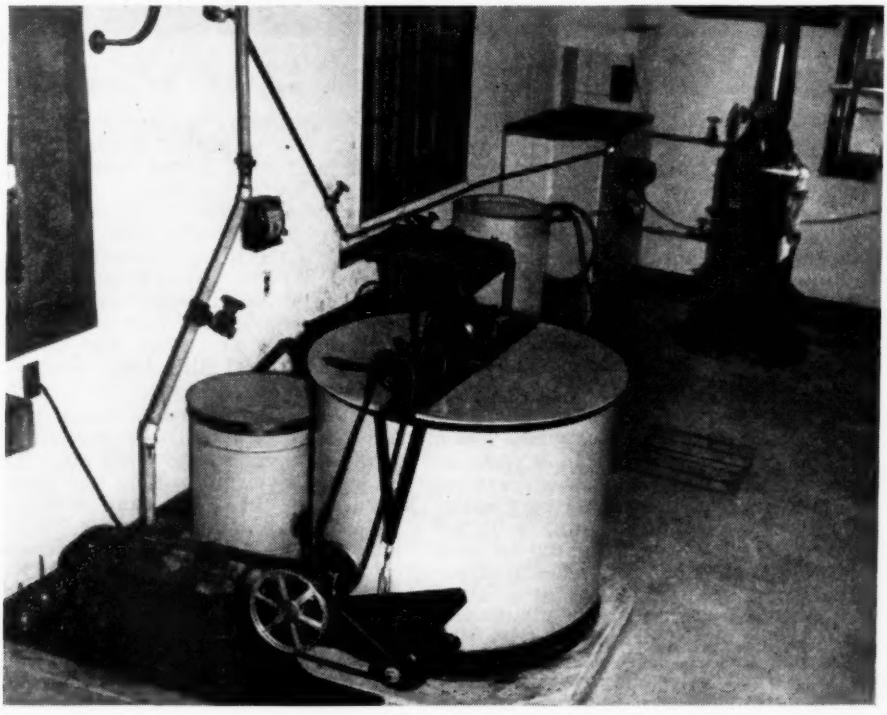
Ideas for the Honey House

By Harold W. Kitson

In arranging a honey house there are a few things to take into consideration. The amount of room required depends on the number of colonies you operate or on how many you intend to expand. If you already have a building then you must arrange the machinery and storage accommodation to the best advantage but if you are in a position to build then you must decide which is the best type of building for your purpose.

After 20 years' experience, building up from a few colonies to around 400, extracting in makeshift buildings, we were able last year to build to suit our own ideas of what we wanted.

The floor plan shows the general arrangement and the dimensions. The truck driveway is depressed sixteen inches to give greater ease in loading and unloading. Of course, the ideal arrangement would be to have the floor of your building level with the bottom of the truck so that carts could be used for loading. Having the truck inside is a "must" as it prevents robbing and the spreading of AFB. The truck can then be loaded and unloaded at leisure. If there is a spell of bad weather it can be loaded and waiting till it can be used. Two high windows above the big door attract any bees that may have been brought in with the full supers. A load of honey supers brought in late in the afternoon and left overnight will be practically clear of any bees that may have come along. The truck is backed into the honey house and the supers unloaded directly into the extracting room and when finished can be loaded back into the truck if needed or piled up in storage until the next year.



The extractor is a 30-frame radial. The honey pump is bolted to a plank, which in turn is bolted to the floor.

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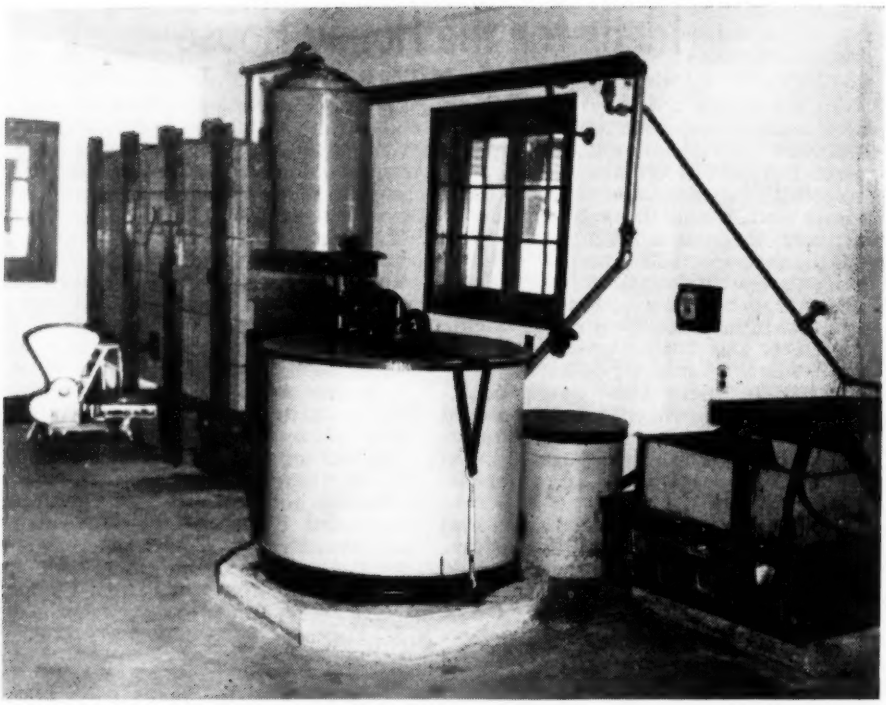


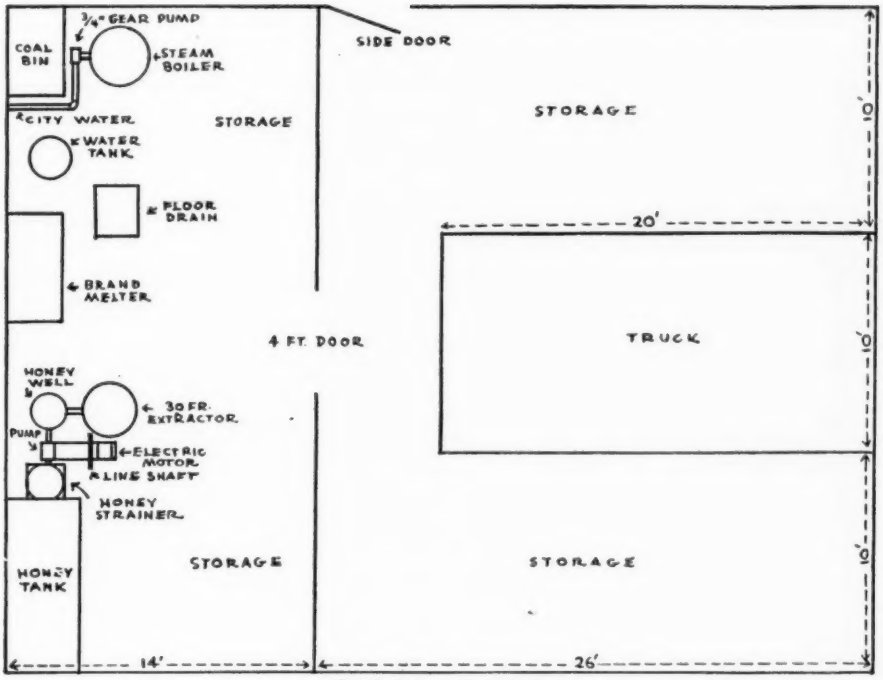
The extractor sits on a built-up concrete block and is held down by two bolts set in concrete. The rectangular tank is shown at the left behind the extractor.

Steam is provided for the steam uncapping plane, the Brand uncapping melter, and a hot water jacket around the honey pipe, by a 2 h. p. boiler carrying up to 55 pounds pressure. The water is forced into the boiler by a ¾ inch bronze gear pump driven by an electric motor. A coal bin is built into the corner and is filled from an outside door. The chimney is in the corner.

The extractor is a thirty frame radial equipped with comb savers and is sitting on a built-up concrete block and held down by two bolts set in the concrete. The extractor pulleys were changed this year to V-belt drive and worked very satisfactorily. The honey pump is bolted to two inch planking which in turn is bolted to the floor. The counter shaft and electric motor are bolted to a two by eight inch plank and hinged at one end and held by two bolts in the middle with long threads so that the belts may be tightened.

An O.A.C. strainer is used to purify the honey. This will give trouble especially in the fall unless the honey is warmed by the hot water jacket. The strainer is drained every night and the sieves placed in a tank of water to soak. After half an hour or more the honey on the sieves is dissolved and the wax particles, etc., can be flushed off with a garden hose. This tank of water must be drained and replaced with fresh water every two days or it will ferment and sour and eat the galvanizing off the tank and also the sieves.

After years of using round tanks for honey we built a rectangular tank with a hopper bottom. This tank is seven feet long, 30 inches square at the ends, and drops to four feet deep in the center. It was built of two inch planking with two by eight uprights, and lined with galvanized iron. This tank provides a large surface for the air bubbles to rise and it can be drained to within a few pounds without drawing the foam from the top. Having the bottom slope to the center gives more slope than to have it slope to either end.. This tank holds 5000-



FLOOR PLAN

6000 pounds, but anyone wishing to build one could make it to any size. The molasses type gate is easier to fill from than the honey gate, especially for small containers.

We have found that having the machinery placed along the wall is more practical than having it in the center and working on both sides. The filling of containers is done at one end and does not interfere with the extracting. Of course with a larger outfit with two men uncapping a different arrangement would be needed, but for one man uncapping this plan has proved very efficient.

Portage la Prairie, Manitoba.

Annual Pollination Conference A Success

The meeting of the Honey and Pollen Plants Committee of the National Federation of Beekeepers' Associations held at Amherst, Mass., July 12, was well attended and worthwhile.

R. B. Willson, Chairman, in opening the meeting, called attention to the increasing dependence of agriculture on honeybees for pollination of over 50 farm crops.

G. H. Ahlgren, head of Farm Crops Dept., New Jersey Agricultural Experiment Station, emphasized the importance of legumes in crop rotation. **Ladino clover** is superior for permanent pastures. It crosses with white clover so it may be necessary in the future to produce seed in isolated places to maintain purity. Ladino may be an important honey plant in the future.

Robert S. Filmer, Research Specialist in Entomology at New Jersey Agricultural Experiment Station, stressed the importance of distributing bees over an area—one to 1½ colonies per acre—instead of placing hives all in one spot, to give uniform pollination of legumes.

A. B. Beaumont, State Conservationist of Massachusetts, said legumes are on the increase in New England. Hubam clover is limited because of lack of lime in the soil. Birdsfoot treefoil is hard to get going in New England but goes when once started. Top dressing of phosphates for soil seems essential for best results in legume production.

J. H. MacMannon of the Massachusetts State Highway Dept. said that the Government wants roadside plants that are useful. Mowing roadsides is unnecessary and detrimental except at intersections. Highway officials will be glad to receive lists of honey and pollen plants.

J. R. Hepler, of the University of New Hampshire, and **E. J. Anderson** of Pennsylvania State College, brought out the value of bees for pollinating fruit trees. One good colony of bees may sometimes be worth $50 to the grower.

Back-yard Queen Rearing

By George W. Phillips

[The writer of this article, after considerable experience in queen rearing in his home in Jamaica, came to the United States more than 40 years ago and became not only a prominent queen breeder but author of the book "Modern Queen Rearing", many of the principles in which are in use today.

Leaving commercial life for the professional, Mr. Phillips studied for the ministry, located in California, and subsequently became one of the country's most celebrated radio preachers.

Now retired, he is again giving some attention to bees, which this article proves. In fact, we have a shining example of the truth of the old saying, "Once a beekeeper, always a beekeeper".—Ed.]

Earlier in life I was quite extensively engaged in beekeeping. Readers of Gleanings during the years 1903 to 1906 will recall my associations with The A. I. Root Co. and my occasional articles in this magazine. The years following found me in college and in the Christian Ministry. Until 1923 or 1924 as time permitted I continued beekeeping as a sort of sideline That article in Gleanings for May, "Now I Have Seen It", certainly brought back memories of the long ago, for during my undergraduate years I always kept a colony or two in my dormitory room which I occupied alone, fourth floor back.

At that time—40 years ago—such a procedure was assumed to be certain death for bees. My bees wintered beautifully and produced good crops of honey right there in my study. The beginnings of my work in California in 1918 were with a small church, and three months of the summer, one of which was my vacation, found me giving much time to queen rearing. My church in Oakland grew rather rapidly and in connection therewith I installed the radio station KSFO. My beekeeping enterprise had to be given up. and for the next nearly 20 years, until the period of my recent retirement, my total energies were devoted to a radio ministry. All this by way of background.

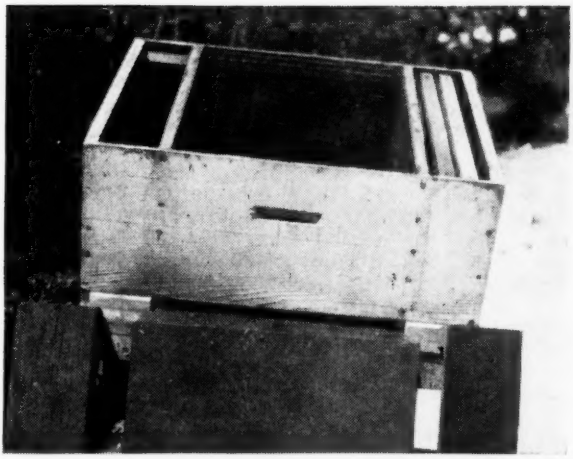
It is said, however, **"Once a beekeeper, always a beekeeper".** For recreation and for home honey I continued to keep a little apiary of about 10 colonies. These I tried to requeen every year and the method used is what this article aims to tell. While it is quite effective in back-yard queen rearing I see no reason why it could not be used in larger apiaries where queens are reared for local use.

Queen Rearing Hive

The hive employed is of standard dimensions except that it is 25 inches wide, outside measure. This hive is divided into three compartments. The central compartment conforms to the regular ten frame hive. On either side of this is a two frame nucleus compartment. The entrances of these nuclei are at the back of the hive, opposite that of the parent colony. A one inch or larger hole in each division board makes it possible, when necessary, to integrate all three compartments into one colony. Otherwise a strip of wirecloth over these holes divides the colony into a parent colony and two side nuclei.

I have described a hive specially constructed, but this is not necessary. A simpler and less expensive method is to use the standard ten frame hive and make for each side a two frame nucleus open at one broadside and attached to the main hive with hooks or with wooden cleats. In that case the hand hold of the ten frame hive should be cut through and that covered with wire cloth. At the end of the season these right and left nuclei so attached may be taken off and stored and the hand holds closed.

Now as to procedure: We desire to start queen rearing; selecting a strong colony we remove the queen and two frames of hatching or nearly hatching brood to one of the side nuclei, closing the entrance to the same. The main colony is now queenless and your grafted cells may be given in 24 hours, or even before. It is often desirable to leave the grafted cells right there until they are sealed when they may be transferred to a strong upper story for ripening. As soon as the cells are removed the queen and her two frames of bees are returned to the main colony. Thus the normal de-



A hive of standard ten-frame dimensions with a two-frame nucleus compartment on each side. Entrances to nuclei are at the back of the hive.

velopment of that colony has hardly been affected.

When our cells are ripe our side nuclei are made up from the selected colonies occupying the hives described above, the cells are distributed one to each nucleus and the entrances closed for five days. If we are short of bees one frame of bees and brood and a division board instead of two frames may be placed in each side nucleus. For warmth the frame should be placed on the inside, next to the central colony. If feeding of the nuclei is necessary this is done by inverting a bottle with a punched cap over a half inch hole in the nucleus cover. The number of queens fertilized and the quality of queens produced is surprisingly satisfactory.

For the backyard apiarist certain advantages of this method will suggest themselves. Here you have your standard two frame nuclei but you have also for each two such nuclei a central supporting colony whose bees may be transferred back and forth with no danger of fighting. Ordinarily a nucleus separated from the hive may have a succession of lost virgins and become too weak for effective functioning and die out entirely. That danger is eliminated. The supporting central colony is always there and addition of bees or brood to the unfortunate nucleus is a simple matter. Or a succession of lost virgins may mean the mess of laying workers. That danger is eliminated. Remove your separating screen, let in the bees from the central colony, and your laying workers are gone. In like manner the danger of robbing is almost eliminated. Then for the parent colony there is the advantage of having two young queens in reserve. Should the nuclei become too strong, reverse the process and give the surplus brood to the parent hive.

When requeening is necessary remove the queen from the parent hive and after 24 hours open the dividing screen and let the main colony bees get acquainted with their new mother. A few days later transfer her on the comb to the main colony. When winter approaches remove all the screens and let the three divisions integrate. A series of other advantages will be apparent. A series of modifications may suggest themselves to the mature apiarist. The tremendous disadvantage is this: In case of foulbrood the poor apiarist's dilemma is even more complicated. However, I have been very fortunate and have never had to meet that situation. At any rate my backyard method of producing queens and honey from the same colony, and this without seriously disrupting the process of honey gathering or making too serious demands on my time, has for me and my ten colonies worked out very smoothly during the last 20 years.

Saratoga, California.

[Some beekeepers are using a similar hive with each compartment holding four or five combs instead of two.—Ed.]

Notes on Getting Honey Plants Up

By Leroy A. Wilson

My friend Victor Sullivan says the main thing about raising a garden is getting the seeds in the ground. I think he's right but also believe the matter of getting them up is equally important, especially where honey plants are concerned. We believe this is the main reason why there are not more good honey plants for the bees to feed on.

Of all the seeds we have tried, Kaysori alfalfa is remarkably quick. With our plantings here, although the season was late when the seed arrived, the plants emerged from the soil in four days from planting and in two weeks were from five to seven inches tall. No nurse crop was used.

Sainfoin and some of the clovers probably come next. The Persian strains of Sainfoin we have tried come up much quicker than common or European varieties and appear to be hardier plants.

Mignonette comes up quickly and makes rapid growth.

Echinops is a bit slower but is sure. You can pretty well depend on a stand of Echinops but it appreciates weeding.

Probably the hardiest and surest plant we have tried is the purple flowered **Cleome** or Rocky Mountain Honey Plant. Mr. A. V. Thomsen of Troutdale, Oregon, planted some for the first time this spring. He reports (June 6) that it is in bloom, about waist high, and the bees nearly carrying it off bodily. Ours began to bloom about June 10 this year. It will bloom until the harder frosts in November. The earlier frosts seldom kill it. Thomsen's climate is moist. Ours is dry. It therefore appears that Cleome will prosper in a wide variety of climates. Where planted in open spaces, without too much interference from other plants, we have seen it grow five and six feet high and a single plant will have thousands of flowers on its many branches.

Birdsfoot Trefoil and **Phacelia Tenactifolia** are fairly easy to get up. Simpson's Honey Plant is slower but just give it time and it will emerge.

Motherwort is not as slow as Simpson's Honey Plant and it can be planted most any time. We have successfully seeded it in April and also in August. The seed we planted in August of last year began blooming about June 5 of this year and the bees have been swarming over it. They leave sweet clover and Ladino clover near-by to work the Motherwort. From bees I have counted working single plants, I would guess that an acre of Motherwort ought to keep 500,000 bees very busy.

Wagner pea must be seeded fairly thickly to get a stand and must be weeded and nursed along.

Anise and Mountain Mint are very hard to get a stand from. From our experience we would advise to proceed as follows: Make deep furrows in well prepared soil and broadcast the seeds IN THE BOTTOM of the furrows, then cover with straw or puffed perlite, preferably the latter. Vermiculite or any fluffy insulating material will do. Wet the seeds daily until they have germinated and emerged through the insulating material. This method works well with any seed.

A further improvement is to make pellets of the seeds mixed with rich soil and fertilizer and sufficient moisture to bind them together. Ammonium nitrate or other sticky fertilizer will aid binding the pellets. These pellets can be broadcast but we prefer to sow them in deep furrows under an insulating mulch cover.

An Unnamed Honey Plant

Mr. W. L. Rasmussen and I have discovered a honey plant which should be of interest. It is a native of this region. While we have not definitely classified it yet, we can say it belongs to the **Ericacea** or Heath family and is related to heather. Two years ago a colony of bees kept at this place gave us an early flow of honey which had the finest flavor either of us had ever tasted, and we have had experience with sage, alfalfa, sweet clover, catsclaw, and mesquite honeys. We have tried ever since to find where the nectar came from and have alternately given credit to wild garlics and segos, service berry, wild grape, snowberry, but we now believe this native heath should be given the

credit. We believe it is a heretofore undiscovered species.

The thing which makes it so attractive is its hardiness and the fact that it is not only drouth resistant but grows on rocky soils and even in rock crevices. It has been blooming for six weeks past and promises to bloom for many weeks yet. Cattle browse it and seem to like it. The bees work it from morning until night and visit it in fully as great numbers per single plant as they do motherwort.

We are making further identification or will name it if not previously classified, are taking photographs, and will furnish further information later on if the bee journals find it of sufficient interest to their readers.

We feel that this family of plants should have further attention from beemen and that seed of **Ericacea phyllodoce, Ericacea Ledum,** and other genera should be procured and tested. It may well be that Scotland is not the only place these hardy plants do well and millions of acres of waste land in the United States might profitably be seeded. Surely, as many members of this family as can be obtained should be tried out in the United States. We have made experiments with the native variety we discovered which convinces us it has real promise. We will give further information if it is of sufficient interest.

Bull Valley, Veyo, Utah.

Cessation of Queen Bee Importations Proposed to Prevent Introduction of Fatal Bee Disease.

In order to prevent the introduction of a fatal bee disease consideration is now being given to the revocation of the regulation under which the United States Department of Agriculture, acting in behalf of public institutions and commercial queen breeders, is permitted to import queen bees for experimental and scientific purposes, Secretary of Agriculture Clinton P. Anderson announced today.

Continued importations of queen bees could result in the introduction into this country of the fatal bee malady known as the Isle of Wight or acarine disease.

Shortly after World War I this disease threatened to wipe out the beekeeping industry in England. Losses to European beekeepers from this disease greatly increased during the recent war. Since the surrender of Germany losses from this pest have continued to increase, even in Switzerland, the country that has led in research on the mite and its control on the European continent.

Fortunately, Secretary Anderson continued, the mite causing the disease has never been found in this country. Our beekeepers are entirely inexperienced in controlling it. Introduction of the disease here might well endanger the American beekeeping industry, with attendant dangers to American agriculture in view of the increased dependence now placed on the honeybee in the pollination of legume and other important seed crops.

There are no positive symptoms of the disease. The only method of determining its presence is through dissection and microscopic examination of the queen bee, which requires its destruction. The present regulation, the Secretary declared, is not adequate to safeguard against the introduction of the disease.

All persons interested in presenting their views on this subject are requested to submit them to the Chief of the Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, U. S. Depart of Agriculture.—U. S. Dept. of Agriculture, Agricultural Research Administration, Washington, July 15, 1947.

Our Cover Page

A bumper crop in the midwest in the late thirties. Will we see such crops again?

—Photo by Clarence Tontz.

Four Swarms Post Four Questions

By Grant D. Morse, Ph. D.

Who Decides Which Bees Shall Leave Home?....Is the Queen a Leader?....Who Gives the Commands?....May Strangers "Join Up"?

I had four little experiences this past summer with swarms of honeybees that interested me. I don't claim that these experiences reveal new facts. They seem to me, however, significant illustrations of bee behavior.

The first occurred when I went to a hive from which a swarm had issued some three or four minutes previously. As I started to pry off the inner cover, young bees poured out of the inner cover hole in characteristic swarms fever haste. Nothing new about that, you say. No. But swarming bees were not coming out of any other exit in the hive. The swarm was already three hundred feet or more from the hive and nearly clustered by that moment and it was too late for others to join. The colony was occupying four hive bodies at the time. The two upper ones were nearly full of honey. No excluder was in use.

My conclusion was that these young bees which rushed out of the hole in the inner cover in swarms fever haste were doing so because some characteristic colony force had prevented their gaining release by way of the lower exit. What this force was I do not know. Perhaps the "news" of swarming had come to them too late. Perhaps they were too young to participate in the exodus. I'd be glad to know what others think was at the root of this behavior.

A Young Queen Takes Off

The second experience occurred when I shook a swarm off a wild rose bush that stood in front of the apiary. At first I had tried to shake the bees off the rose bush without cutting the bush, but this failed. They climbed back on. I hated to cut off the bush, for it was the only growth of low vegetation in front of the apiary large enough to accommodate a swarm. I knew too it was a "charmed spot", for other swarms had settled there previously. But, other methods having failed, I sawed it off with a saw I fortunately carry in the truck when visiting out-yards. A burlap bag served as the magic carpet for the bees' feverish passage into the hive entrance. Nearly all had gone in when I saw a good sized queen, yet evidently a virgin, about 18 inches from the entrance. She gave no evidence of intending to go in either, so I reached to pick her up with the intent of putting her into the entrance. But she had different plans, for each time I reached for her she took to flight. She would circle until I'd lose sight of her. (I don't mean by this that she arose into the air to any great height; I simply lost sight of her each time.) But in a few moments she would be back.

The fourth time I did succeed in catching her by the wings and putting her into the entrance. The swarm stayed. It was headed by a virgin; of that there was no doubt, for no eggs were laid for several days.

Now here is the feature of behavior that puzzles me: as this queen arose and circled, the workers paid no attention to her. You may say there were other virgins present. There may have been. I can't say. I did not see any other, however.

Was this young queen reluctant to go in? Would she eventually have led the swarm away if I had not put her inside the hive?

A Stranger Joins the Swarm

On another visit to an out-yard I observed a swarm in the act of issuing and followed it to its clustering point on the limb of a pine tree some ten feet above the ground. I could not quite reach it by standing on the ground. As I surveyed it, two bees dropped to the ground in each other's embrace. A more accurate word than "embrace" should be used, however, for one seemed to be fighting, the other defending herself—just as you see them doing at the hive entrance when a stranger bee has begun to enter the wrong hive, either by accident or with robbery in mind.

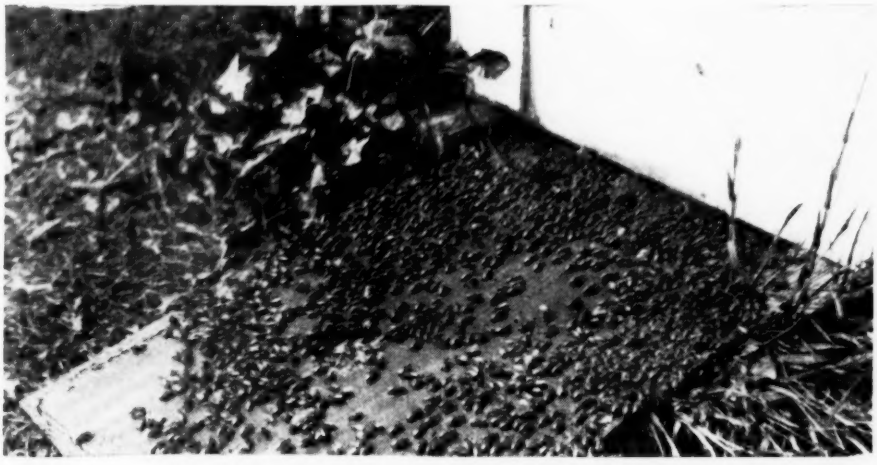
My conclusion was that a bee from some other hive had attempted to join the swarming throng, and was being repelled. We know that occasionally two or more whole swarms unite without much, or any opposition from the memberships. But perhaps it is different when **one** stranger attempts to "join up". I'd like to know what the observation of others has been in this matter; does a swarm repel intruders as general practice? Are intruders a common occurrence?

The following is an afterthought and has little relation to what has preceded: what does the pollen laden bee do with her pollen if the swarm clusters for a long period before moving on? Or how does she keep up with bees not similarly impeded if the swarm flies a long way in reaching its new home?

Which Bee Gives the Signal

I've often wondered what bee gives the "leaving" signal. This past summer a neighbor phoned me he had "caught" a swarm. Even he assumed it was one of mine. He asked if he might have a hive. I found he did not want to buy a hive so I gave him the necessary equipment and went along to observe. I found the swarm clustered on a cement post in which a woven wire fence was fastened by being imbedded. To add to those difficulties, a vine was interlaced through the fence. To make a long story short, he failed to get the swarm off the post and wire and into the hive. The next day I drove over after lunch to see if he had made any progress. He had just had his mid-day meal and was about to make further attempts when suddenly, as we stood observing them, there was a peculiar hum, the cluster arose into the air—not slowly, but swiftly, and moved off across the neighboring field at a brisk pace—too fast to be followed, yet not over 20 feet in the air, and in a rather tight cluster.

The beekeepers I know all believe such a swarm has been advised of a new home by a scout, or scouts, sent to get the information. But I wonder who gives the signal of command. Is it all a matter of instinct?



A swarm rushes feverishly into the hive.

Capacity of Communication in Honeybees

By J. Schiller, Ph. D.

Professor at the Vienna University

In Europe it is more than half a century since a fair number of beekeepers have been convinced of the capacity of honeybees to inform one another, especially concerning their collecting activity. For the activity of scouts, constantly flying out from colonies, should be of no value if they could not at their return communicate to their fellows at which flowers they were gathering, where these are to be found, and whether they are containing much or little nectar. For without this information the bees flying out would be obliged to seek again, exactly as long and painfully as did the scouts, before finding a rich nectar source. Thus, without a well-organized communicative capacity, an economic gathering duty, saving time and forces, is not imaginable. Therefore, both the excellent French knower of bees, Georges de Layens. and the world-known Belgian beepoet and bee-researcher, Maeterlinck, believed firmly in a kind of "bee language". Now we are knowing that the bees use an **expressive** language by signs, as do deaf mute men, the latter of course in a far more perfect form. It has been discovered and deciphered during the last two years by the best known bee researcher in the world, Professor von Frisch at Graz (Austria). Thus his research on our honeybee's life and especially on her mental capacities, carried on for more than 30 years, have lead to a magnificent discovery, belonging to the most beautiful ones in recent biological research.

Many beekeepers will be desirous to know the bee language themselves and to show it to their friends. This is possible without any particular difficulty. The object necessary for it is an observation hive, thus a beehive with glass windows on both sides, in which two or three honeycombs are placed above each other. Thus an observation of all occurrences is possible. Now we shall put a dish with a thick perfumed sugar solution on a table a distance of 20 metres* from the observation hive. Thus we are offering the bees an abundant and much appreciated food. Now we shall catch from the observation hive a bee just prepared for flying out, and put her near the sugar-water. Soon she will drink eagerly. In the meantime we shall mark her by a spot of red dye on the back for recognizing her after her arrival on a honeycomb in the hive. At her arrival, we shall see at first at the top of her trunk a drop of sugar-water squeezed out from the honey bladder, which will immediately be sucked up by her neighbors. At a place where bees are thronged, she will suddenly begin to run in a circle, now to the right, now to the left, at different spots on the honeycomb. She is performing the "round dance". She is dancing lively and eagerly. Her neighbors are evidently getting excited. They follow her, patting her with their feelers for taking her scent. For the dancer is bringing the odor of found food on her body! Now many of the bees having had contact with the dancer will hasten to the flying hole and fly off; the observers posted near the food table will announce the arrival of numerous bees. They will all be marked by a red spot. It is but now that the first visitor will return, whereas the bees sent out by her will return to their colony. They all behave just as the first one, thus they give off sugar-water by their trunks and then they all perform the round dance just as eagerly at the most different places on the honeycombs, with the same effect. Another great troop of bees is being enlisted to visit and will appear at the dish filled with delicious sugar-water. They too will be marked with red. Soon there will be no more place for new helps at the sugar-water. Then none of the returning bees will dance longer. That is to say, a sufficient number of collectors are being active, they are enough for gathering, no further succor is necessary.

Some hours later we shall establish a new food place at another spot of our garden. We shall be-

*A metre is 39.37 inches in length.

smear a leaf of rough paper with a thin fragrant sugar solution. Again we shall put a bee caught as before, upon the sugar-water paper. She must take pains for sucking the sugar-water adhering to the paper-fibers. She will take a longer time. She will be marked with yellow. She will dance the round dance, but not lively or with interest. A few bees only will pay attention to her and fly out. They will dance the same way at their return. The result will be the formation of but a little gathering troop. When it comprises 10 bees the dances will already cease. They are thus sufficient for gathering the poor prey. Always feeding with bad or good food will have as a result differences in rhythm of the round dance. A lively dance will signify an invitation to formation of a strong working group for gathering valuable food; a negligent dance inversely.

Returning Bees Indicate the Distance of a Found Honey Source from their Colony

We shall get convinced of it ourselves. We shall offer the bees of our observation hive a thick sugar or honey solution at a distance of 50 m., marking of course the visitors circulating here. There will be the same picture as before. So will it be at a distance of 75 metres. Now we shall shift the food source to a distance of 100 metres. Only a part of the remaining bees will keep performing the round dance, the other part will dance quite another way. These will quickly run in semicircles, now turning to the right, now to the left. A run in a straight line is interposed, as shown in Fig. 1. This straight course gets the more striking and remarkable because the bees are lively, moving to and fro to both sides the tips of their abdomens; they are "wagging their tails". Certainly all beekeepers have already seen this strange behavior. We have here a dancing type of a peculiar kind. It has received by Frisch the name of "tail-wagging dance". For knowing clearly its significance, we must feed the bees at a distance greater than 100 metres. Then all bees will perform the tail-wagging dance at their return. Thus we have learned further words of bee language. The tail-wagging dance announces thus the situation of a honey source at a distance of more than 100 metres. But this would be of little use to the bees. Now bees were fed successively at greater and greater distances up to 3 km. An exact analysis of tail-wagging dance showed that the semicircles, proportionally with increasing distance, decreased in size, number, and rate, but the rate of tail-wagging increased. Prof. Frisch, by observing these different

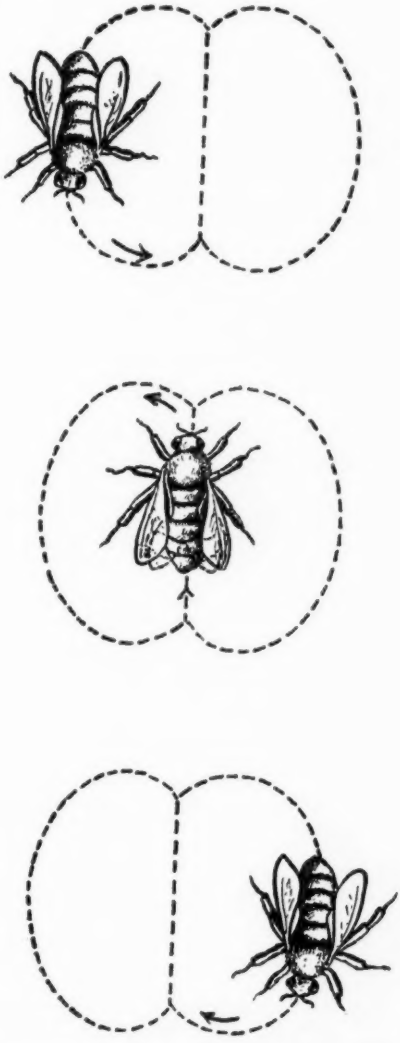


Fig. 1—"Tail-wagging dance" of bees. The straight course is the tail-wagging run, the bee moving to and fro the tip of its abdomen.

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movements with watch in hand, was finally able to say if bees returned from a distance of 200, 300, or 600 metres.

Bees Tell One Another Not Only at What Distance Flowers are to be Found, but also at Which Point of the Compass

We shall put, at noon, each at a distance of 200 metres, one table with good food at the South, another at the North of the colony. Again we shall bring caught bees from the observation hive to the two food places and mark those coming from South with yellow, those from North with red. All yellow bees will dance the tail-wagging dance in a way that during a straight course (tail-wagging run) they will have their heads directed upward, whereas the collectors returning from North carry their heads downward. The southern food place is situated at a straight direction from the hive to the sun; the northern one just opposite to the sun. Does the sun lead the way? For deciding the question, we shall establish at 10 A. M. one food place exactly at the direction of the sun, another again just opposite the sun, thus at SE and NW respectively. Again, the former bees will dance with their heads upward, the latter ones downward. Thus the straight run of tail-wagging dance with the head upward will say to the companions, "You must fly towards the sun, but with the head downward; you must fly opposite the sun. Then you will find the flowers whose odor my hair-dress indicates according to the manner of my tail-wagging dance at the distance indicated by it".

At 2 P. M. we shall offer the bees sugar-water at the East and West. Bees returning from the East will perform the tail - wagging run (straight course) towards the left saying by it that the honey source is to be sought left of the sun, to wit, at an angle to the left at which tail-wagging run is deviating from the vertical. A tail-wagging run to the right indicates thus that the food sources lie right of the sun, at that angle to the right at which the straight run deviates from the direction upward. This indication of direction does not even fail at covered sky. Neither are the bees wrong if a colony is carried by motor-car into an unknown landscape at perfectly covered sky and bees are allowed to fly before any sun ray could peep through the cloud cover. Thus the bees recognize the position of the sun even when our eyes fail.

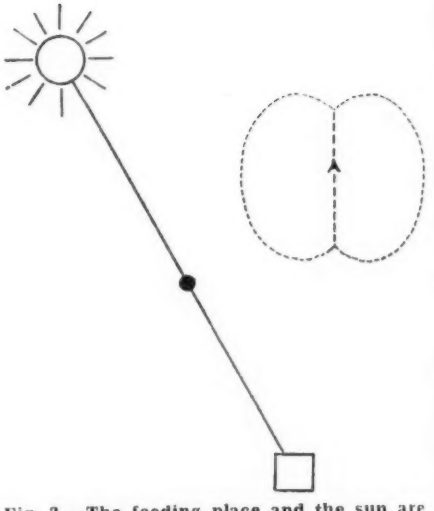

Fig. 2.—The feeding place and the sun are situated at the direction towards the colony. The bee is running the straight course with its head erected. See the direction of the arrow.

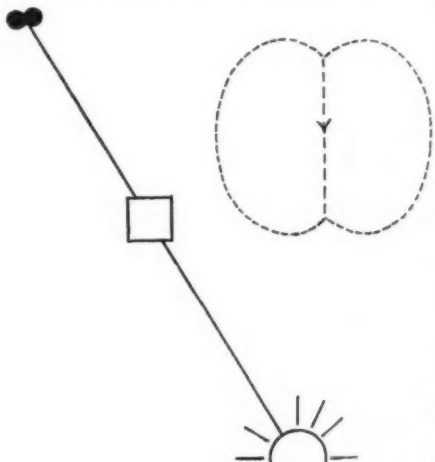

Fig. 3.—The feeding place is opposite to the position of sun. The tail-wagging run on the honeycomb is performed with the head downward. See the direction of the arrow.

Many a beekeeper will shake his

head and will not fully believe in the correct interpretation of bee dances. For such a language by signs requires extraordinary mental capacities in our honeybee. Also the discoverer felt the necessity of subjecting the correctness of his interpretation of the bee dance to rigorous criticism and reexamination. He had a very lucky thought. In our beehives the honeycombs on which bees dance are placed vertically. This requires that the bees exactly observe the position of the sun in each case and take note of the resulting angle to the honey source. But if the combs were horizontal, the bees would have very easy work with the indication of direction, being plainly obliged to run the straight course (tail wagging run) directly towards the food place. Thus the observation hive was established horizontally. What a surprise! Now indeed, bees running the straight course took always the direction towards the honey source. By this the correctness of the interpretation of bee dances has been proved.

There was still need of one observation and statement. Let us think about a flowering clover field. Here the visit by bees begins at 8 A. M. and ends towards 5 P. M. During this time the sun is describing an enormous bow. Gathering bees returning from thence must change their dancing angle during the single hours according to the changing position of the sun. For examining this question, a food place was established east of the observation hive at 8 A. M. and supplied all the day long, to wit, such a way that at 8 A. M. colony, feeding place, and sun were in one direction. The returning bees bonnily and correctly danced head upward at the beginning. But already at 9 A. M. they danced at a small angle at the left of the sun. This angle increased from hour to hour, the more the sun proceeded on its way westward.

Thus all possible objections could be refuted. Bees, on the way to the food source as well as on their return, observe exactly the position of the sun, and, if a further enlistment for succor of the gathering troop is necessary, announce to their companions with a striking exactness at what direction and distance a found honey source is situated,

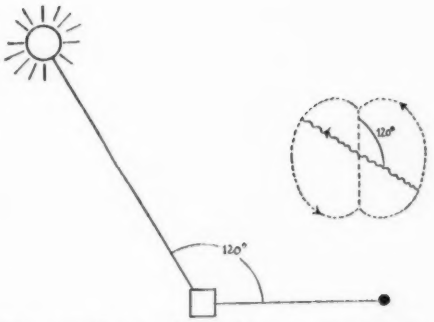

Fig. 4.—The feeding place is situated at right hand from the position of sun (at angle of 120°). The dance is deviating from the vertical at this same angle.

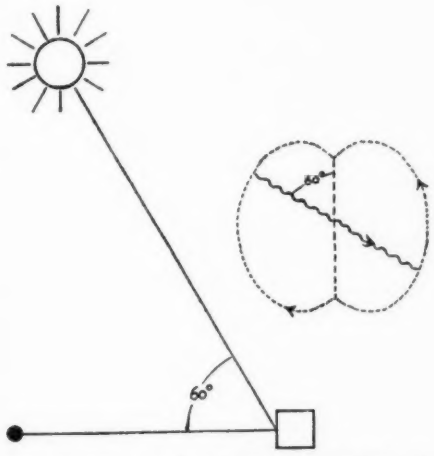

Fig. 5.—The feeding place is situated at left hand from the sun, at an angle of 60°. The bees are running the tail-wagging run at an angle of 60° to the left of the vertical.

forming at the same time collecting troops of due strength for finding the honey-yielding meadow, clover field, or forest by the shortest way, thus saving time and forces and making the most of it rapidly.

Not only ourselves, the bee friends, but certainly every man with spiritual interests must be deeply impressed by these wonderful performances of the honeybee. The old view that all actions of bees are only an effect of **instinct** has no validity. Bee research during the past 30 years has detected so many preeminent mental capacities of bees that one may with full right speak about an **intelligence of bees.**

My "Hunch" Concerning Nosema

By Percy H. Wright

It seems that the farther north one is, the more severe the toll of Nosema disease. When I say "Nosema" I do not necessarily mean that my hunch confines itself to that particular trouble. There may be several minor diseases, working alone or in collaboration with one another, for all I know. Very frequently diseases appear to do just that. For a certain amount of evidence we need only to observe how the "common cold" affects humanity, and the different types of infections. Even the viruses of certain forms of plant life that have come under my attention succeed in killing their hosts when they attack in combination, whereas either one working alone would succeed only in weakening it.

My method of deciding the severity of Nosema and allied infections at any particular time is to note the number of bees that are seen crawling in the dust of the highway, unable to take off again. I admit that I judge it also, to some extent, by the lack of thriftiness in the yard and by the number of supersedures. Sometimes one observes that a colony makes no headway, no increase of population for weeks at a time, even though one knows that other colonies are forging ahead in a normal manner and that conditions are favorable. Apparently that is what happens when the worker bees fall prey to Nosema in some numbers and yet the queen stays free. When the queen catches it we may suppose at first an alarming drop in reproduction may be expected, and eventually supersedure.

As a matter of fact, it is difficult to explain the variation between colony and colony (which means between queen and queen, since the vigor of the queen is the vigor of the colony), except on the basis of disease infection. We do not observe a like variation in the farm animals under our observation, when they are closely related, bred from common stock, nor do we observe it in ourselves. It is true, of course, that inferior individuals "segregate out" from all lines, even those supposedly superior, but mostly our methods of inbreeding have already compelled such segregation to occur and more or less completed it. In humanity, where inbreeding is rarely practiced and hybridization is at present extreme, the variation between the children of one family is at its maximum for all creatures under observation — except sister queen bees and their progeny. And that is why I have a hunch that the variation between colony and colony must be due to some extent to the incidence of disease. Heredity and laws of segregation can hardly account for it.

Apparently Nosema is at its worst when the bees are confined to their hives for long periods of time, whether by wetness or coolness in the summer or by the cold of winter. I doubt if there is any place in North America where such conditions prevail more frequently than here on the fringes of northern settlement in prairie Canada. Just as the Southwest of U. S. A. has a continual struggle with the desert with its lack of moisture, so we have a continual struggle with the Arctic with its lack of heat. Every year it is just nip and tuck whether our crops will ripen, even though we habitually choose the earliest varieties available. Sometimes we lose weeks of what would otherwise be good nectar harvesting in August, our second warmest month, and days in July, our warmest month. As for our winters, their difficulty can be appreciated when I state that in 1944-'45 my bees took their last flight about October 25, were put into the cellar ten days or so later, and were not taken out until May 12 of the following year. This is 198 days, or a period of six and one half months without a chance to void feces. As I write this on April 26 my bees are still in the cellar. Nosema disease is surely at its maximum here—at least it is very severe. That there is a connection between its incidence and confinement to the hive seems a logical inference.

The reason that package bees are relatively more popular here than anywhere else in the world may also be not unconnected with the same phenomena. That Nosema is slow to incubate is well understood, and it seems that we can receive a

package, install it in May, harvest our crops, and gas it off at the end of the honey flow before Nosema has taken any discernible toll. This may be partly due to the shortness of the time from beginning to end—less than four months—but the chief reason is probably that the period coincides with our warmest weather when the bees are able to fly most freely. It is our wintered-over colonies that really suffer.

What the future is to be will be determined to some extent by our success or non-success in the effort to control Nosema by sulfathiazole treatment. If the method works out as well as we hope, even though that may be less well than it has already demonstrated it can work for foulbrood, we are likely to be wintering a much larger proportion of our bees than at present. I am thinking of the wooded and park areas of Manitoba, Saskatchewan, and Alberta, and not of the open plains. In the drier parts of the provinces the conditions for the rearing of fall brood are not conducive to the late summer and autumn repopulation of the hive with young bees, and so packages will always be in demand there.

A great deal will also depend upon the trends in the package bee business. Since about 1942 it has been hard to get reliable service this far north. Always there seems something to interfere — unseasonable weather in the South, lack of shipping cages, railway strikes in one country or the other, crowded express cars so that the bees do not get adequate ventilation and are overheated enroute, or something of the sort. We do not forget the fact too that we have been compelled to give a good proportion of our orders to shippers other than those whom our past experience has shown to be most reliable. However, the chief handicap to the extension of the package bee business in our area is largely the still unsolved problem of supersedure of queens in the package colonies. It would be hard to attribute any sizeable proportion of this loss to Nosema, but we must attribute it rather to problems incidental to the check in egg laying occasioned by the long confinement of the queen and her necessarily slow resumption of the normal rate of reproduction.

Perhaps some day soon we shall solve the problem by bringing our bees north by air transport. In the meantime I am still of the opinion that the suggestion I put forward in Gleanings last fall should be made the basis of experiment. If we started our package bees off with fewer bees, say a pound and a quarter or a pound and a half, the queen's lack of swift response to the need for eggs would surely be less discernible to the control bees than it is now. Then if we added another equivalent weight of booster bees about two weeks later the queen would by then be in a position to respond, and the weak point in the life of the package hive, namely the period about 20 days after installing, would be bridged over.

Probably we could also help ourselves by keeping at hand a larger number of nuclei for requeening the package colonies which are unlucky with their queens. At any rate, here it seems, is the place to which we should direct the attention of our experimental stations.

In spite of all I have said I do not wish to give the impression that conditions for bees are unfavorable here. Our days are long in the summer and our pastures generally good. A few years ago we estimated the annual production locally at 200 pounds per colony, but recent years will bring down that estimate to about 150. It is still a respectable figure.

Moose Range, Sask.

* * * * *

Packages Flown Overseas

By Glen C. Barger

Thirty thousand bees were winging their way through the night across the Atlantic Ocean and arrived in London, England, the following morning. They were flying on the wings of a transoceanic plane.

To my knowledge, this is the first shipment of package bees ever exported by air express to Europe. The bees left Carey July 26 by rail to Toledo, then to New York by plane, and from La Guardia Field to London by plane.

Their destination is Gothenburg, Sweden, to an apiarist in that country. This is a trial shipment of 5 3-lb. packages of Italian bees. The original order called for 20 packages. The air charges were $76.00.

Carey, Ohio.

It's Canning Time

By Mrs. Benj. Nielsen

Delectable honey canned fruits to serve with those toothsome honey squares.—Photo courtesy of Kellogg Co.

These hot summer days, if we followed our lazy inclinations, we would probably exert ourselves as little as possible—and how would the shelves of the canning cupboard look next winter? So taking the long-term view, we will make possible luscious treats like the delectable fruits pictured here. And, of course, it will be the honey way. Honey canned products are a delightful treat!

How much and what kind of honey you will use will depend upon personal taste. Generally speaking, the milder flavored honeys are most satisfactory for canning uses, especially if you use an all honey syrup.

For a thin syrup use ¾ cup honey to 3 cups water; medium syrup, ¾ cup honey to 2 cups water; heavy syrup ¾ cup honey to 1 cup water. Use a LARGE kettle in preparing the syrup for honey has a tendency to foam in this process—and who wants a stove cleaning job in canning season! Bring to a boil, skim, and proceed in the usual manner for canning. It is well to keep in mind the fact that the honey flavor intensifies with age so that it is a wise cook who avoids a too rich syrup in canning.

You may prepare the fruits in large pieces for salads or sauce, as pictured, or dice or cut small and call it fruit cocktail, as you like. Bring out that can of sliced pineapple you have been saving, and some of those apricots you canned earlier. These with fresh peaches and pears, perhaps some white grapes, will be a toothsome variety. And here's a tip—just leave those maraschino cherries in the original jar on the shelf and add them as you are ready to serve. If you combine them with the fruits, eventually they become a discouraging anemic looking pink. Pack chosen fruits in clean jars, fill with a thin or medium honey syrup to within ½ inch of the top, adjust lids according to type used, and process in hot water bath for 20 minutes. Cool jars completely, test for seal, and store in cool dark place.

Honey Plum Butter

Wash 3 pints of plums, remove all blemishes, and cover with water. Cook until soft. Run through sieve to remove pits and skins. Measure pulp and add ½ cup of honey for each cup of fruit pulp. Cook slowly to avoid scorching. When thick seal in hot sterilized glasses. Makes six 6-ounce glasses.

Honey Bread and Butter Pickles

Twenty five medium size cucumbers, 10 medium size onions, ½ cup salt, 1 pint vinegar, ½ pint water, 2 cups honey, 2 teaspoons mustard seed, 2 teaspoons celery seed, and ½ teaspoon tumeric.

Slice cucumbers and onions medium thick; arrange in layers, sprinkling salt over each layer. Let stand 2 to 3 hours; drain. Combine remaining ingredients; bring to boiling; add cucumbers and onions; cook 5 minutes. Pack in hot, sterilized jars; seal. Makes 10 pints.

Aurora, Nebraska.

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Live and Learn

By Propolis Pete

I started to tell you about a case of robbing that I saw a few years back, when I reached the bottom of the page last month. With me, robbing is a serious problem, maybe because there are periods in which there is absolutely nothing for the bees to work on. If you are in such a location, it might be well to caution you again.

I think it was in 1939 or 1940 that I extracted my spring honey around the first of August. I have an extracting room set up in the old barn, and just next to it was an observation hive—one of the regular factory made kind with glass sides and space for a frame of comb honey sections. It is most interesting to watch the bees, but here I go again, talking off the subject.

When bringing the supers into the honey house, some bees would be brought in with them. Invariably some of them would drift into the observation hive, thereby increasing its population and making it quite strong, considering that it had only one frame, but most of them would be strange bees. As soon as I started to uncap, thousands of bees would snoop around the honey house. Inevitably, some of them would get into the observation hive and out again with a load. They would tell their friends, and pretty soon there would be quite a lively session in progress. The strengthened observation hive would call all hands to repel boarders, and after a few days of fun and frolic the bandits would be convinced that it was no use. Through the glass, I'd see bees get past the guards, and then see a half dozen of the natives jump them and throw them out. Possibly a lot of them gained entry because there were so many other strange bees in the hive, but once they started to load up and run, the natives joined with the old ones and gave them the old heave-ho. Anyway, that is how it looked to me, but apparently enough got back home with their loot to work up the robbing fever.

This particular year, the morning after the fun began I noticed about a hundred bees hanging around the north window of our kitchen. They had that sneaky look of robbers, and I wondered what it was all about. Our house is about a hundred feet east of the barn, but the kitchen window is located just about in the same relative position as the window from which the observation hive has its exit. In other words, it had about the same general description, if you were trying to find a place from a description of a place where there was plenty of free lunch, and the bees hanging around it had evidently misunderstood their directions. I watched for a while and then tumbled to the fact that something must be up.

Sure enough, the air in front of the north end of the barn had a good sized swarm of bees hovering around. It looked just like a swarm only these bees didn't sing the glad song of the swarm. They were singing that high pitched whine that tells you to get into your armor plate.

Looking in through the glass windows of the hive, I could see nothing but a mass of seething bees. You could not see anything of the comb of frame, just bees. Up in the comb honey sections, in the back of the hive, was a bunch that just about filled a section, jammed in a cluster as tight as that formed in a cold winter, or in a tight swarm. Apparently they were the defeated owners of the hive, licked and resigned to the fact.

There was nothing that I could do. There were more robbers than inmates. The natives had given up and would not have been able to throw out the robbers in spite of any help that I could have given them. I figured that the best way to handle it without causing more trouble would be to let them clean up and get out. This they did in a very short time. That night I made a wooden plug with a ⅜" hole in it and put that in the entrance. I put a screen over the top of the hive and left that open for ventilation, because, remember, this hive was inside the barn with only the entrance open to the outer world.

The next morning they had reorganized, and with two bees guarding the entrance, they were safe. I would not recommend this for an

(Continued on page 503)

Annotations

By Prof. A. Z. Abushady
United Nations, New York

Predisposition to EFB—The age of a queen is the condition of her activity and fertility. Whenever a young queen fails she is aged, and to tolerate her, just because of her supposed youth, means among other evils predisposition to European foulbrood which would add to the weakness of the afflicted colony. Matters may become worse in the hands of the inexperienced who cannot differentiate between AFB and EFB and may conscientiously destroy a colony that could be saved by requeening and enforcing with emerging brood. The object lesson is never to practice false economy, particularly with queens.

Installing Package Bees (p. 407)—Mr. E. L. Rhoads is quite sound in his practice, provided he uses very thin syrup, otherwise the practice is a disadvantage in hot climates where water spraying is quite sufficient and advantageous. Such a practice I have often used, but quite as often limited myself to dipping the queen cage in a pail of water before releasing her on the combs. Syrup coated bees in hot climates will suffer since the water element dries quickly.

Black Bees (p. 396)—Am I mistaken in remarking on Mr. Heacock's sentimental article that the common American "wild" bee should not be described as black, this description being more suited to the Tunisian bee (**Apis nigra**)? The disqualifications which he mentions are equally shared by similar bees in Western Europe. Such bees are by no means hardier than the Alpine Carniolans for instance who readily adapt themselves to oasis and desert conditions or in hornet infested countries though originally bred in the peaceful Alpine cold mountains. The best features in these native American bees could be propagated by crossing them with Italians, the combination of yellow and dark bloods being congenial and productive.

Scientific Research—In the light of the discussions on the value of sulfathiazole and penicillin in the apiary, it is interesting to read the creditable report of the Chief of the Bureau of Entomology and Plant Quarantine of the U. S. Department of Agriculture which shows that sulfathiazole as well as penicillin retard or prevent the germination of **B. larvae** spores. This scientific truth should encourage beekeepers in evolving a rational method of prevention and treatment according to the time of year and the condition of the colony rather than indulge in discrediting the merits of these drugs.

The Acquisitive Instinct — The "Scottish Beekeeper" is fortunate in having on its voluntary staff such an impressive and charming teacher as Mrs. M. W. Hooper. In the June article "To Beginners" (p. 100) she lucidly states, "The strongest instinct in a stock of bees is not the swarming instinct, but the acquisitive instinct, and should the season be such as to provide ample nectar to keep the stock well employed right through to the end it will be found that few stocks will swarm and that many will tolerate quite a lot of cramping rather than swarm while the nectar flow is on". This is sound teaching, to which I venture to add that the best way to keep bees occupied until the honey flow starts is by "equalizing" the strength of all colonies in the apiary in a judicious manner as much as possible. Overbreeding colonies may be deprived of some capped brood to strengthen others; colonies ahead with pollen gathering and nectar storing or with comb building may exchange with others part of their combs for some sheets of foundation, and so on. In this manner two purposes are fulfilled: (1) diverting the attention of bees from swarming by keeping them busy responding to the acquisitive instinct, and (2) building up a respectable apiary with no weaklings so far as practically possible, ready to take full advantage of the honey flow when it starts.

80 Years Among the Bees

By E. R. Root

The reader has doubtless noticed under the heading, "80 Years Among the Bees", that I have attempted to record the history of beekeeping in the United States from the late 60's up to the present time. So far I have said very little about one man, my father, A. I. Root, whom Dr. Phillips proclaimed as an evangelist who developed bee culture from a small, insignificant industry to one that now counts its products by the carload.

A. I. Root did not invent the movable frame hive with a bee space all around, called the Langstroth. He did not invent comb foundation, nor a bee smoker, nor a queen excluder. But I think it is safe to say that he immensely improved all of them. He greatly simplified the Langstroth hive by leaving off the porticoes and projecting cleats of all sorts. The original Langstroth, while 2-story, had the upper unit larger than the lower one, so when A. I. Root came out with his hive he called it the Simplicity, and reduced it to a hive body and a bottom board.

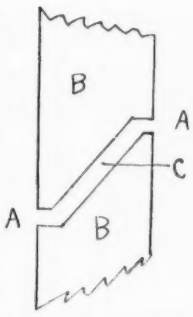
He did not invent comb foundation but was the first to put out a product that could be sold in a commercial way.

He did not invent the extractor but was the first to make a machine to sell in a commercial way—called the "Little Novice", which is now in universal use.

A. I. Root, like L. C. Root and T. F. Bingham, greatly improved the Quinby smoker but Quinby was the first to see the value of smoke in quieting bees.

He improved the queen excluder —first using perforated metal, the exact dimensions of the hole, and later his workmen made the first parallel bar queen excluder, still in use.

My father was the first to put into successful use the idea of shipping bees in wirecloth cages without combs. That was in 1878. Today the shipment of bees in that form has reached an enormous production yearly. At first, many bees died from lack of proper food enroute, but when the syrup can was introduced and put into these cages, success was finally achieved. This enabled northern buyers to recoup their winter losses. For example, a 2-lb. package would bring a colony, under par, to normal strength; a 3-lb. or 5-lb. package could be put on combs when bees had died. The importance of this procedure would enable northern beekeepers to get a crop of honey when they would fail to get a surplus.



Langstroth's original hive was two story — the upper being enough longer and wider with enough clearance so that it could telescope over the lower. To hold it up in position, cleats were nailed onto the ends and sides of the lower hive an inch down from the top. In this way room was provided for the storage of honey in boxes with glass sides. Langstroth could have made the upper story exactly the same length and width as the lower hive, but he made it larger so it would shed water during a beating storm and also shut out cold during winter. If the two units had been of the same dimensions, he could have put one hive on top of the other.

To get around the difficulty of the two dimensions, A. I. Root made hives so that the points of contact would come on a bevel, as shown herewith. This made it possible to preserve the telescopic feature of shutting out the weather. But A. I. Root did not know that the spaces between the contacts would in time be filled with bee glue, making it difficult if not impossible, to separate the upper from the lower story. In later years, this bevelled feature on all hives was abandoned in favor of a square joint which could be separated with a hive tool.

In the early 70's he was the first to exploit in a commercial way an artificial substitute for pollen. He was not the first to introduce this because that was done by Langstroth in 1853.

He was the first to show that dry sugar could be fed to bees successfully. That idea, old as it is, is now of more use than ever, making the use of syrup unnecessary in most cases, syrup being a primal cause of robbing.

A. I. Root was the first to put into

(Continued on page 492)

From the Field of Experience

Upper Entrances, Where Shall They Be?

By Charles Koover

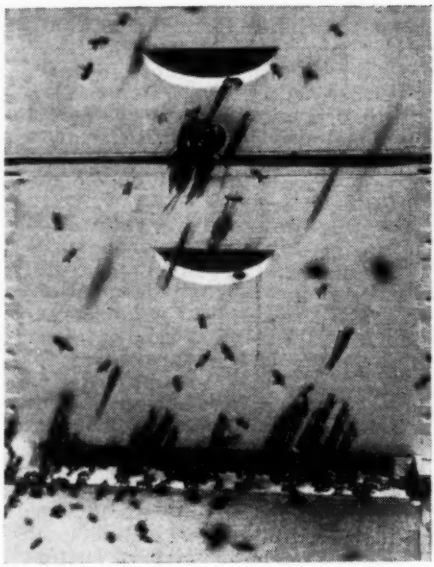
In the hand hold? Half way between the hand hold and the lower entrance? Or at the bottom of the super over the brood chamber, like the one in the picture?

When the hole is bored in the hand hold one is apt to get a handful of bees or get stung on the wrist while lifting a super or hive. For bees guard these openings generally on the inside.

And when the hole is bored below the hand hold field bees gathering nectar are still entering in the brood chamber, thereby causing congestion.

But when it is located near the bottom of the super over the brood chamber, bees using this opening for leaving and entering the hive avoid going through the brood chamber. This in itself eliminates crowded conditions. Field bees returning with nectar can enter directly the super above the brood chamber where they store their surplus honey. If there is a queen excluder over the brood chamber the field bees with their load of nectar don't have to force their way through it. They enter at the bottom of the frames as they do at the bottom board entrance.

In winter when the cluster forms between the food chamber and the brood chamber, they should be able to leave the hive with more ease if they wish to take a cleansing flight. This I must presume, for as a southern Californian I know nothing about wintering, as my bees fly the year around.



Some hesitate to mutilate their hives, by boring holes, but they appear to answer a purpose.

My upper flight holes are one inch in diameter and it is interesting to watch how bees will score a hole in one, sailing right into it, when the come and go is not too great. If one wishes to close these entrances, thermos bottle corks fit perfectly and can be easily removed as they do not swell up and bind as wooden plugs will do. The popularity of these large upper entrances shows that smaller openings must be inadequate.

Altadena, California.

Importation of Bees into Canada

By R. M. Pugh

The extent to which Canada has become a market for southern raised package bees was forcibly brought to my attention the other day by some figures recently published by the Dominion Department of Agriculture covering importations of packages into Canada from 1942 to 1946.

The value of package bees imported into Canada for 1942 to 1946 is as follows:

1942, $266,895; 1943, $429,565; 1944, $662,164; 1945, $756,550; and 1946, $832,440.

Package shippers have been doing a splendid job of getting first class packages across to Canada during the last few years.

Fort Qu'Appelle, Sask.

The Arizona Bee Industry

By Ferris M. Weddle

Bee hives under the mesquites, the principal honey plant of the desert.

Beekeepers dream of a country where the honey flow is steady several months out of the year. Arizona can qualify on this point. The desert begins to blossom as early as February and continues throughout the summer. There is no finer flavored honey than that taken from the mesquite and cacti.

Arizona has its citrus blossom honey, too, in addition to alfalfa and cotton flow. The latter furnish the bulk of the industry's production. As more and more desert land is put into cultivation, the production of honey will rise. The industry has had to depend on this expansion of irrigation waters.

The peak year was 1941, when beekeepers realized an average of 95 lbs. per colony. The year 1945 was the low year when only about a 40 lb. average was gathered. This extreme decrease was due to the spraying of fields by farmers to check the spread of injurious insects. In the process of spraying, beekeepers lost around 15,000 colonies, according to figures from the office of the State Entomologist. This set-back will be rebuilt, to a great extent, this year.

Apiaries are inspected yearly, and more often if needed, by representatives from the State Entomologist's office. Foulbrood, the most prevalent disease, is watched for with eagle eyes. All infected colonies are promptly burned, and a quarantine placed on the infected yard and all those within a three mile radius. Quarantined yards cannot be operated until permission is given by the Inspector. Products from these infected yards cannot be sold within the state, and a certificate must accompany all products which go outside the state.

The result of this strict supervision is manifest when it is known that only 56 colonies had to be destroyed in 1945.

How big is the industry? There are around 1500 beekeepers in the State. Only about 300 of these are commercial beekeepers. In 1943 Arizona had around 79000 colonies, but there has been a decline. Weather permitting, 1947 will see their number increased considerably.

XUM

Second Glances

By C. M. Isaacson

Labor and cash expended are the two determining factors behind many phases of beekeeping practice. Using empty frames alternately with drawn comb in supers given would certainly save on both as well as furnish considerable extra wax if combs are cut out each year. If they are not, however, queen excluders would seem to be almost a necessity, as these frames of full drone comb would be overwhelmingly attractive to a queen, whether in supers or brood chamber. It will be of definite interest to read the results of Editor Deyell's experiments during the main honey flow as to this (page 385).

Our hopes are often more than the crop our bees harvest, but that moral of Mr. Teasley's article (page 389) is certainly correct—strong colonies get honey from one source or another, but they usually get honey! And his experience shows, as in countless other cases, just how dependent we all are on suitable weather. Nature can withhold or give at will.

Increased alfalfa seed production through the agency of honeybees, the item on page 391 says. In some areas, beekeepers should secure copies of this to combat an all too prevalent notion that just the opposite occurs. An "official" release carries considerable weight with the ordinary farmer and would help much to assure a better welcome for the beekeeper.

"Stingless" bees have an unfortunate habit of becoming irritated and showing that they are not **all** stingless (page 392). Many a beekeeper has found this out with gentle bees he has been especially proud of. But poor grandpappy, with true loyalty to his "pets", had adequate explanation! Moral—you can be wrong, but don't admit it!

A sweet partnership could also be the heading for the words and especially clear photographs contributed by Bert Brown (page 394). I am curious about that extractor which handles supers rather than individual frames—as to whether the honey is removed as thoroughly or not, etc. It is quite an idea.

All bees can go "wild"—blacks are no exception here, as any honeybee is perhaps but one step removed (if that) from their primitive state. But the native black bee, as all races, have their own characteristics. The few I have had experience with had the fault of running madly whenever examined, ending up often with combs clean of bees and everything else nearby dripping with them. She is no worse than some Italians, no more apt to gather propolis than Caucasians, caps honey no whiter than Carniolans perhaps, but she can **run** faster (and sooner) than any other bee, I believe! (page 396).

Encouraging late brood rearing can either be of value or it can be overdone. There are some strains of bees that use a large part of their winter stores in just such late brood rearing, producing too many bees which serve no purpose. In regions of no fall honey flow, encouragement of a moderate amount will leave the colony in better shape for winter. Much depends on locality and the strain of bee (page 399).

Uniformity of applicable state laws is certainly desirable in any case, and most surely so in the case of beekeeping where there is so much interstate commerce. No one can blame a particular state for wishing to keep its territory clean, but this is assured, the Editor is right that state lines should not constitute a barrier (page 401).

Kindly "Dont's" are well received ones. No one can read accounts of Dr. Miller's life—and his writings —without seeing that his were just that. They were backed by knowledge and hence certain ones, but yet in the rare instances where he was wrong he would cheerfully admit it. It is no wonder he contributed so much to beekeeping—**lasting** influence (page 403).

Honey markets are very shaky at the present time (page 416). We could expect this, of course, after the boom of the past year, but there should be no reason to believe that it will become entirely demoralized. The work of organizations such as our large cooperatives — and the **American Honey Institute** — will bear fruit now when it is no longer true that "anything goes".

Thief River Falls, Minnesota.

American Honey Institute News Notes

Mrs. Harriett M. Grace, Director
Commercial State Bank Building
Madison 3, Wisconsin

New Favorite Honey Recipes

Just out! A wonderful new Honey recipe book! Its title is NEW FAVORITE HONEY RECIPES.

This book is attractive, practical, and timely. It's purpose is to insure, through wide distribution, the continued and increased popularity of Honey.

Here are just a few of the outstanding features of NEW FAVORITE HONEY RECIPES:

The neat white plastic binding. The book will lie flat at any page at which it is opened.

The beautiful cover. It shows a spray of flowers in orchid and two shades of green against a pale green background.

The 56 high-gloss pages, each printed in orchid and green with marginal decorations.

The introductory article by Dr. Morris Fishbein, Founder of the American Medical Association, and Editor of the **Journal of the American Medical Association.**

The 2-page spread devoted to the photograph and recipe for Fruited Honey Wedding Cake.

Best of all, **the 150 tested recipes,** carefully selected to bring the greatest satisfaction to the many homemakers who will use them, and the greatest sale and resale of Honey to you who distribute them.

This is a top-quality book designed to help you make many new friends and strengthen old friendships, too. Users of OLD FAVORITE HONEY RECIPES will want to have this new companion volume!

NEW FAVORITE HONEY RECIPES offers you exceptional value at low cost. Single copies of this deluxe plastic-bound book will be sent at 25c. Those who wish to order books in quantity lots may write the **American Honey Institute** for a price list.

* * * * *

August is Fair month. Throughout the nation, all thoughts are turned to plans for State and County fairs. There will be many interesting booths and exhibits, all vieing for the attention of the spectators. This year, as before, honey booths should and can attract the largest crowds of all.

Everyone who goes to a fair likes to take something home with him. A good way to attract visitors to your honey booth is to sell or give away honey literature.

This year the **Institute** has an especially effective selection of leaflets and books from which you may choose. When you order leaflets, don't forget our two new ones, "Two Sweet Gifts from Nature, Citrus Fruits and Honey" and "Two New Favorite Honey Cake Recipes". Wise exhibitors are planning to sell honey recipe books at their fairs. Not only will they attract many visitors and publicize honey, but they will bring an immediate profit to those who sell them.

Like bread cast upon the water, what you put into this literature will return to you a hundredfold. You had better keep your order book in a convenient place, too, for good-looking honey literature will inspire on-the-spot purchases of honey.

* * * * *

Did you know that the Bakery Department of Macy's in New York is offering its customers an unusual kind of bread? It is made with goat's milk and honey. **The Bakers' Review** reports that in compactness of texture it resembles the old-fashioned type of bread.

* * * * *

Three recipes for delicious honey toppings appear in the new recipe book issued by the makers of Aunt Jemima Pancake Flour.

* * * * *

Consider two honey producers. One sells his honey, trusting to luck that the buyers will know how to use it to the best advantage. The other sells his honey, and by including some tested honey recipes with each purchase, makes certain that his buyers will enjoy using honey. Which honey producer will have more repeat customers?

Asked and Answered

Disinfecting Hive Parts

Question.—Last year while bee supplies were so scarce I purchased some old hives from a farmer and I recall he told me that all his bees died. I didn't think much about it at the time and he never told me, if he knew, what the trouble or the cause was of the bees dying. But after thinking the matter over I am afraid to use these hives without disinfecting them and I wish you would advise me just what to use and how to use it.—D. R. Keeton, Kentucky.

Answer.—If you have reason to suspect that the hives may have come in contact with diseased bees, you can make them safe for future use by boiling them in water for 20 minutes. This necessitates considerable labor and equipment. In our opinion, if you would wash the hives thoroughly in scalding hot water, using a brush, this would be just as effective as submerging them in water. The main thing to keep in mind is that all traces of honey and wax should be removed from the hives.

Does a Queen Bee Lose Her Sting?

Question.—Does a queen bee lose her sting the same as a worker bee when she stings?—O. V. McDow, Oklahoma.

Answer.—A queen bee does not lose her sting because it is not barbed, as is the sting of the worker bee. When two queens are fighting one queen can sting the other and perhaps kill her, without losing her sting. Nature has apparently made this provision to avoid having both queens die and perhaps leave a colony hopelessly queenless.

How to Deal with Laying Workers

Question.—What should I do with a colony having laying workers?—B. E. Piggott, Kansas.

Answer.—Generally speaking, a laying worker colony is not worth fooling with. Sometimes, however, a populous colony that has developed laying workers at the beginning of the season may be worth saving. The method you have in mind for getting a queen introduced may perhaps be worth trying. A method we have used consists of caging a queen safely for at least six days, then permitting the bees to release her. During the six days the bees will become quite well acquainted with the queen, through the screen, and they are not so likely to kill her as they would if she were liberated from the cage in a relatively short time.

Take Queen Excluder Off During Winter in the North

Question.—Last fall I left the queen excluder on all winter. Did I do the right thing?—J. Everett Powell, Pennsylvania.

Answer. — A queen excluder should be removed during the winter months in the North when you winter each colony in a two story hive. If you leave the queen excluder on, the bees may move up into the top super during the winter, and the queen, not being able to accompany them because of the excluder is forced to remain below and may perish because of cold weather.

Saltpeter for Smoker Fuel

Question.—What is the correct mixture or formula of saltpeter to use when dipping burlap to make it burn in the smoker a long time?—C. J. Clark, Montana.

Answer.—The actual proportion of saltpeter is really not important, but if you wish you can make a saturated solution. That is, keep adding until no more will dissolve. Such a mixture is the main ingredient used for pouring over old stumps in order that they may be completely burned up. You need not bother to dip the end of the roll of burlap or cloths deeply. A quarter of an inch or even an eighth of an inch is enough. The chemical name of saltpeter is potassium nitrate.

Booster Bees

Question.—What is meant by booster package of bees?—J. Saugstad, Minnesota.

Answer.—"Booster" packages of bees are queenless packages used for boosting the strength of packages of bees in about two or three weeks after the regular packages are installed. There is a time during the development of a package, just before the first cycle of brood emerges, when the package is at its lowest ebb numerically. A pound or two of queenless bees given to the package at this time will boost the package ahead rapidly.

Brushing, Pouring, or Spraying Syrup on Cages Containing Package Bees

Question.—In your April issue you state that you feed package bees by painting the syrup on the wire screen. About two years ago you had another article which cautioned against using a paint brush or any article to brush the syrup on with that would injure the bees' tongues. About a month ago we had some arguments about this and also with the county agent

just because of the painting, and now you state to paint or rub the syrup on the screen.—Michael J. Griggs, Pennsylvania.

Answer.—It is possible that the alleged danger of injuring the tongues of honeybees when syrup is applied to the screens of bee shipping cages is somewhat exaggerated. We can understand how a brush with stiff bristles used for painting syrup onto the screen might injure the tongues of the bees as they take syrup through the meshes of the screen. However, a soft brush or cloth, if not rubbed too vigorously on the screen, would hardly injure the bees. At present we pour thin warm syrup through the bee shipping cages containing the bees. We pile the cages up flatwise on top of two sticks laid over the top of a wash tub. The syrup is poured onto the top screen from a sprinkling can ordinarily used in the flower garden. This wets the bees thoroughly and gets them filled with syrup. After the syrup has been run through the cages which are sometimes piled five or six high, depending on the amount of packages to be installed, the bee shipping cages are then removed from their position over the tub and placed in their normal position until they are ready to be put in the hives. In the meantime, the bees are gorging themselves with syrup. Bees well filled with syrup are likely to get established in hives and are also likely to accept queens that are turned loose at the time bees are put into the hives. If the installing can be done late in the evening, all the better. Dr. C. L. Farrar of the Madison, Wisconsin, Bee Culture Laboratory, advocates spraying packages with syrup, using a spray pump. This method sounds good to us.

How to Detect a Honey Flow

Question.—How can I recognize a honey flow when it begins or stops?—Vern E. Dress, Illinois.

Answer.—It may be a little difficult for the beginner beekeeper to tell just when the main honey flow starts. During a light or minor flow the bees work quite well during the day, but they do not carry in large loads of nectar as they do when the heavy honey flow is on. During a good honey flow the bees approach the entrance of the hive well loaded with nectar and they will drop or settle on the alighting board of the hive some little distance from the entrance, possibly five or six inches, then crawl into the hive. When bees have very little nectar in their sacs they will usually hover up and down in front of the hive, then fly directly into the hive entrance. When you have had a little more experience, you will be able to tell, after carefully examining each hive entrance, whether or not bees are loaded with nectar, or whether they are carrying light loads. The main honey flow in your locality should start around the middle of June.

Exchanging Positions of Weak and Strong Colonies

Question.—I have five or six colonies that are very weak and I have some others that are in very good condition. Can I change their places, putting a weak colony where a strong one is and a strong one where the weak one was? Would that work out all right, or would the returning bees, especially the ones returning from the strong colonies, be liable to fight and kill the queens in the weak ones?—Charles A. Hurst, New York.

Answer.—It should be possible for you to exchange places with the weak and strong colonies. This has been done successfully and resulted in equalizing the strength of the colonies. When the field bees from the strong colony return, they will enter the hive containing the weak colony and strengthen it. The best time to do this exchanging is during the middle of the day when a honey flow is on. When bees are filled with nectar they are not likely to fight with each other if they get mixed up in the hive. However, if there is a dearth of nectar, two lots of bees are likely to fight if they get mixed up.

Bees Quit Working in Supers

Question.—Last season when the bees had their sections almost ready to cap they suddenly began to hang out as though they were going to swarm, but they did not swarm nor finish the sections.—R. O. Jones, Michigan.

Answer.—When the sections are full the bees must wait until the honey is ripened before sealing it. If you did not give them more super room this would explain why the bees quit work and began to cluster on the outside of the hive. To wait for the bees to seal the honey before giving another super would sometimes result in the loss of honey that might have been secured if more supers had been given at the right time. It may be the honey flow ceased at the time you noticed the bees quit work.

Just News

The Northwest District Beekeepers' Association of Washington State will hold its annual Field Day at the home of Howard Graff, about five miles northwest of Burlington, August 10th. Pot luck luncheon at noon. Watch for roadside markers leaving U. S. No. 99.—Lucile E. Records, Secretary.

The Pennsylvania State Beekeepers' Association will hold a field day at Bushkill Park near Easton, Pa., on Saturday, August 23. Coming to Easton on U. S. Route 22, turn north on 13th Street to filling station at Bushkill Drive, follow signs to Bushkill Park. — H. M. Snavely, Sec.

CORRECTION: It has been found necessary to change the previously published North Jersey Beekeepers' Association field meeting dates and places. The August meeting: Different date, different place. Sunday, Aug. 24th, 1:30 P.M., at the Diana Apiary of Mr. John Gasko, Saddle River, Route No. 2. The September meeting: Different date, same place. Sunday, Sept. 14th, 1:00 P.M., at the Manor Apiary of Mr. Parker Hamilton, Princeton St., River Edge Manor. — Richard A. Geoghegan, Sec.

The South Carolina annual short course for beekeepers will be held at Clemson, S. C., on Tuesday and Wednesday, August 12 and 13. For this meeting we have been able to secure such outstanding speakers as James I. Hambleton, apiculturist, U. S. Department of Agriculture; Jack Deyell, editor, "Gleanings in Bee Culture"; and a number of other important beekeepers. Full details of the program will be sent to you soon. Arrangements are being made for those who attend to secure rooms and meals in the college barracks. Remember the dates —August 12 and 13.—E. S. Prevost, Extension Bee Specialist.

The summer meeting of the Ohio State Beekeepers' Association will occur August 14 and 15 at Snyder Park, Springfield. An excellent program is in the making, including a talk and an important announcement by Jas. I. Hambleton, Senior Apiculturist of U. S. A., Beltsville, Md. A cordial invitation is extended to all. Those who desire hotel accommodations should write H. R. Swisker, P. O. Box 806, Springfield, Ohio.

The Berks County Beekeepers' Association will hold its annual picnic on August 9 at 1:30 P.M. on the John Rick farm on Route 83, one mile south of Bernville, Pa.—Henry F. Phillips, Sec. and Treas.

The annual Vermont Summer-Picnic Meeting will be held Saturday, August 30, 1947, 10:00 A.M. at the residence of Robert M. Mead on Route 4, four miles west of White River Junction and two miles east of the beautiful Quechee Gorge. It is the first house on the left after passing Quechee Gorge. Our main speaker will be Clyde Wood of S. Woodstock, one of Vermont's most successful beekeepers. All beekeepers and friends are invited to this meeting. Bring the family, your lunch, and a sample of your best honey.—Charles Mraz, Sec.

The New Rochelle Beekeepers' Association will hold its next regular monthly meeting at 2:30 P.M. on Sunday, August 17, 1947, at the home of Mr. and Mrs. Alfred Roth, 146 Oak St., Portchester, N. Y.—B. F. Miller, Publicity.

The Bronx County Beekeepers' Association will hold its next regular monthly meeting, and Corn Roast, at the home of Mr. Henry Kroger, 3661 Eden Terrace, Bronx, at 2:30 P.M. Sunday, August 10, 1947.—Sam Roberts, Sec.

The Missouri State Fair is offering $300.75 in cash permiums for the Apiary Department this year, according to Roy S. Kemper, Secretary. The Fair will be held August 17-24, and entries in this department close August 11. Premiums will be offered for Honey, Bees and Beeswax, and Honey Cookery.

The annual summer meeting of the Empire State Honey Producers' Association will be held in Elmwood Park, Syracuse, New York, on

(Continued on page 492)

A Talk to Beekeepers

By M. J. Deyell

Beekeepers' New Year

The month of August for this latitude in the northern hemisphere has been called the beekeepers' New Year, and rightly so. Beekeepers who intend to winter bees should give attention to the wintering requirements, namely, having all colonies headed with good prolific queens, having each colony supplied with a super abundance of good stores, and having all colonies populous with bees, especially young vigorous bees that will withstand the rigors of cold winter months.

There are those in the North who practice killing off their bees in the fall, selling the honey that the bees would eat during the winter, saving enough honey in combs to feed packages of bees to be installed early in the spring. We will not take the time to go into the pros and cons of this practice. Time will tell whether or not it is profitable. Strong colonies of bees are now being wintered in the far North quite successfully. As stated editorially just recently "A bird in the hand is worth two in the bush," seems to apply to this question of whether or not bees in the far North shall be wintered or killed off in the fall.

Requeening

As I have visited apiaries at the close of a honey flow, I have noticed a wide variation in the number of supers per colony. If all colonies stored as much surplus as the best colonies what a whale of a crop would be harvested. There surely is a reason for this variation in colonies and it must be due, in part at least, to a difference in the quality of queens. Queens of inferior stock should be weeded out and replaced with young vigorous queens from a strain known to be superior in honey gathering qualities.

The late Dr. Miller gave some sound advice to a young beekeeper when he said, "For best success get pure stock. Keep tab on every pound of honey taken from each colony, then breed from the best storers that are all right in color and temper".

Some years ago, we used to requeen all colonies during August regardless of the age of queens. I

The kind of crop we would all like to have

now think this was a mistake because some queens apparently do better work during the second year than during the first year of their lives. However, since the double brood chambers are used on a large scale at present, this means that a terrific strain is brought to bear on queens that have to keep up egg laying during a long season. During the winter months such a queen may not recuperate and so repeat her performance the second season. Quite a number of queens in this class are superseded during the spring months of heavy brood rearing, which is a very critical time. This naturally interferes with producing the maximum honey crop.

At present we do not have any special time of the year for requeening, but we aim to replace queens when they begin to fail. Queens are quite easily introduced during a honey flow. It is sometimes difficult to get a queen introduced during a light honey flow or dearth of nectar. I will not go into the different methods of queen introduction. This has been covered recently by writers in this journal. I have found however that in order to be reasonably sure of getting a queen introduced it is well to make

a colony queenless for at least 7 or 8 days, destroy all cells, then introduce the new queen. When this is done the bees do not have any young larvae from which to rear cells and they are likely to accept the new queen.

Young prolific queens introduced in the fall are more likely to produce populous colonies going into winter quarters than are old worn-out queens. Such young queens should be in their prime the following season.

Winter Stores

It is well to get food chambers well filled during the major honey flow. For the benefit of some beginners who are not familiar with the food chamber, it is a super well filled with honey reserved for winter and early spring stores, in addition to the honey that may be found in the bottom brood chamber. This means wintering each colony in a two story hive.

Remove White Honey Before Fall Flow Starts

In regions where there is a fall honey flow from buckwheat, goldenrod, aster, and other fall plants, it is important to get clover honey removed from the hives before the dark honey begins to come in. If white honey is left on too long it will get mixed with dark, resulting in an amber colored honey.

Don't Take Honey Off Too Soon

Some beekeepers are anxious to taste the new crop of honey. The tendency is to remove combs or supers of honey before it is properly ripened. Honey taken off too soon is likely to ferment because it may contain considerable moisture. Extracting combs should not be removed until they are at least three quarters capped over, and even then during rainy weather the honey may not be thoroughly cured or ripened. Comb honey should not be taken off until sections are entirely capped over.

How to Remove Surplus Honey

Beekeepers with only a few colonies may remove extracting combs by removing the bees with a bee brush. A more convenient method is to use a bee escape, a contrivance that fits into the hole in the inner cover when the wood block is removed. The inner cover with escape is placed under the super or supers of honey. The bees go down through the escape, passing between two pliable springs which prevent them from returning into the super after they have gone down into the brood chamber. In one or two days the supers above the escape boards may be removed without disturbing the bees.

Equipment for Extracting Honey

A small two or three frame extractor is large enough for the beekeeper with from one to twenty, or possibly 50 colonies. The room in which the extracting is done should have windows screened to keep the bees out. The extractor should be anchored down securely with wires to prevent it from rocking while in

A super of surplus honey ready to come off.—Photo by W. A. Kruse.

motion.. Combs of approximately the same weight should be selected so that the machine may not be thrown out of balance. After combs are uncapped with a hot knife they are placed in the baskets of the extractor. A part of the honey should be thrown out of one side of the combs, which requires only a few revolutions of the extractor, then the combs are reversed and all of the honey is thrown out of the opposite sides of the combs. The combs should then be reversed again and all of the honey thrown out of the first side. This helps to avoid breakage of combs in the extractor.

How to Strain Honey

Commercial beekeepers who use large extractors have honey pumps for pumping the honey from the extractor to the tank. A beekeeper with a small hand or power machine may run the honey from the extractor into a pail, then empty the pail of honey into a honey tank covered with two thicknesses of fine cheesecloth. Some fasten the cheesecloth over the top of the tank by means of a wire tightened with pliers. A regular support for holding the straining cloth is more convenient. During hot weather honey direct from the extractor will strain through two thicknesses of fine cheesecloth quite readily. If the weather is cool it may be necessary to heat the honey before straining. To do this the honey should be run into 60 lb. cans from the extractor, then heated in a wash boiler with the water surrounding the cans, which should rest on two wooden sticks so water may circulate under the bottoms of the cans. The water surrounding the cans should not be hotter than the hand can bear.

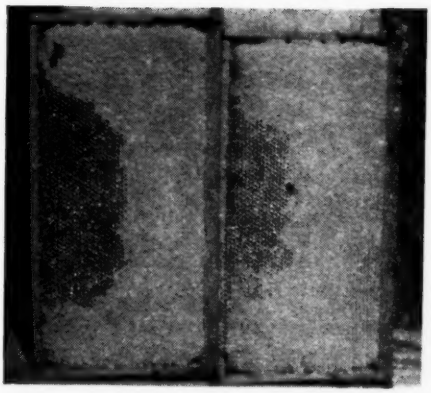
Selling Honey Locally

There are bound to be a few neighbors who wish to purchase honey. Some producers put it up in pails or jars, neatly labeled. The price should not be too high nor too low. Be sure to maintain quality and cleanliness.

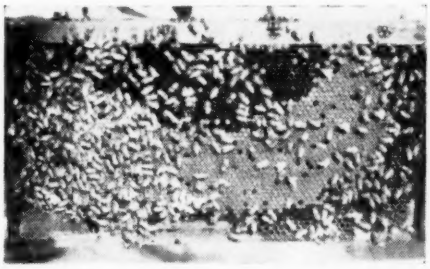
Another method consists of having a tested scale beside the honey tank, weighing out the amount of honey required by customers who bring their own containers. The writer has been doing this for a number of years. This saves the cost of containers, labels, and paste.

Be Sure to Super for the Fall Crop

In some regions there is an abundance of fall honey plants such as goldenrod, aster, Spanish needle, buckwheat, and heartsease. The recent copious rains have put these plants into excellent condition. It would not be surprising if some beekeepers would experience an unusually heavy fall flow.



Combs should be quite well capped over, or at least three quarters capped, before being removed for extracting.



A comb of brood showing young downy bees that have just emerged from cells in upper portion.

There are a few beekeepers who intentionally slight their bees after the major flow from clovers is harvested. In most of the best clover regions there is no fall honey flow of any consequence and therefore what little honey does come in after the surplus clover honey is removed from the hives goes into the brood chamber and helps the bees to fill up for the winter.

In regions where the soil is acid, such as eastern Ohio, Pennsylvania, parts of New York state, and most of the New England states, goldenrod and aster are likely to yield some surplus honey.

Editorials

Copious Rains Improve Prospects for Fall Crop

If rains have anything to do with the development of honey plants — and they do — regions where fall honey plants occur should be due for a good flow this fall.

Buckwheat has been planted in fields where it was too late to plant other crops. Goldenrod and aster are abundant. Heartsease is growing rapidly in low places.

All in all, the prospects for a good fall flow appear to be promising. It behooves beekeepers to remove white honey as soon as it is ripened to prevent having it darkened with fall honey.

During the past few years a demand for dark honey has been developed because in some regions white honey has been scarce. Many people have found that dark honey has a good flavor and have learned to like it. As a matter of fact, dark honey has a higher percentage of minerals than white honey and it contains more food value.

Abnormal Supersedure of Queens

Quite a number of beekeepers over the country are complaining about the seemingly large percentage of queens received this spring that are being superseded soon after being put into the hives.

This condition may be a reflection on queen breeders. However, it seems likely that the majority of breeders are conscientious and produce the best queens possible under prevailing weather conditions.

We had a letter from one of the leading queen breeders of the South recently. He said that the past spring was by far the worst for bee and queen breeding of any he had ever experienced.

Obviously high quality queen bees cannot be produced unless weather conditions are fairly favorable. There must be an abundance of nectar and pollen during the time queens are being produced and the weather should be reasonably warm.

It is possible some queen breeders could improve the quality of their output by changing or moving their outfits to better locations. Some breeders have done this.

It is to be hoped that the coming years may bring improved conditions and that the weather may be kinder to bee and queen shippers.

Agricultural Relations Committee Meets

The Agricultural Relations Committee, a part of our National Federation, met on July 8 and 9 at Fort Collins, Colorado. Dr. J. E. Eckert of Davis, California, was Chairman.

It seems very essential that the relations between beekeeping and agriculture be friendly and cooperative. Each is dependent on the other for success.

At the recent meeting it was suggested that sectional or regional meetings be held throughout the year to which would be invited manufacturers, distributors and processors of chemicals, leaders in agricultural interests, and conservation specialists, as well as beekeepers. Such meetings need not be more than county or state wide in scope to discuss problems peculiar to any locality.

It was also suggested that our Federation encourage the writing of more articles on beekeeping and its relation to agriculture for the various agricultural and trade journals.

During the course of a year we receive a number of letters from beekeepers in towns and cities who are ordered by city councils to move bees outside the corporation limits. In some instances this may be because of faulty handling of bees but in most cases it is because of some disgruntled neighbors wanting the bees moved.

Bees are needed in towns to pollinate fruits and vegetables. Comparatively few people realize the value of honeybees as pollinators. It would seem that the Agricultural Relations Committee has a big job ahead in bringing about a better understanding between town and city dwellers, and beekeepers.

Our National Federation is fortunate in having this committee to help iron out misunderstandings that occur between beekeepers and the public.

Location of an Apiary It is highly important in locating outyards to see that they are placed on high ground, protected on the north and west sides, if possible. Apiaries placed on low ground will suffer from too much moisture which cannot drain away. The same rules that apply to the locations of fruit orchards also apply to the location of bee yards. There is no objection to low ground providing there is sufficient air drainage on one side.

The importance of air drainage can be easily seen when a lower area of fog settles in the low spots. This fog can be seen in early fall and in the spring. If there is little or no sunshine and no means for this fog to drain away, bees will suffer from too much moisture.

Shortage of Hives Means More Swarms in Kegs Unfortunately bee hive material is rather scarce at present because of shortage of lumber and metal. Today (July 9) we talked with a New York beekeeper—a 700-colony man who has used up all the supers he has and doesn't know what he will do if the heavy flow continues, which seems likely as the season in his locality has just begun.

Swarming has been prevalent in some regions. A beekeeper in Illinois mentioned some swarms being hived in nail kegs instead of modern hives which were not available at that time.

This makes a difficult situation for bee inspectors as well as the owners of the bees, as transferring will have to be done eventually if beekeepers are to realize any profit from their bees.

Bee supplies are becoming available and it is hoped that it may be unnecessary in the near future to hive swarms in kegs or old boxes.

Two-Queen Colonies We hear a great deal nowadays about the importance of two-queen colonies. It is a fact that such colonies will store considerably more surplus than single queen colonies when proper management is applied.

It occurs to us that there may be more two-queen colonies in the average apiary than the owners suspect. Quite often we find two queens laying in the same brood chamber, on the same comb, and even on the same side of a comb. This is a case of mother and daughter working together. During recent years some of our helpers, finding two queens in a comb, have wanted to kill or remove one of the queens. Our orders have been to let the queens alone. The bees look after this matter perhaps better than the beekeeper can.

Just why some colonies will tolerate an old queen after the young daughter queen begins to lay, while some other colonies will allow the old queen to die before attempting to rear another queen and then become hopelessly queenless, we do not know. During recent years we have found that approximately 80 or 85% of the queens occupying double brood chambers in our western Ohio apiaries are superseded during the late summer and fall months. Provided the stock is good, some excellent queens are reared under this supersedure impulse.

Moving Bees Without Screening Hive Entrances We do not know exactly when the practice of moving bees without screening entrances began but it is a fact that many hives of bees are moved this way, especially in regions where migratory beekeeping is practiced on a large scale.

It has been said that three quarters of the bees in California are on wheels. A large sized truck equipped for moving bees will easily carry a few hundred hives to a new location. With sufficient man power and hives equipped for being moved easily and quickly, a large load of bees can be gotten ready as soon as the bees are in from the field in the evening. The truck is driven all night and is calculated to arrive at the new location the following morning about sunrise. Moving at night is advantageous in that the rays of the sun do not beat down on the bees enroute. Furthermore, there is likely to be a cool breeze during the dark hours.

The secret in moving bees successfully without having the entrances screened is to keep the motor of the truck going constantly. It seems

that the vibration of the motor lulls the bees into a satisfied condition and they remain in the hives, even though the truck may not be moving. If the motor stops, some of the bees are likely to leave the hives. Dr. Eckert, on page 484 of this issue, mentions one beekeeper who used a large screen around the load of bees to prevent their leaving the truck.

As a matter of fact, we have found, after having moved quite a number of bees without entrance screens, that they can be moved more safely during hot weather than they can with the entrances screened. One trouble with screened-in bees is that they crowd up against the screens when the weather gets hot and thus cut off ventilation. This is likely to result in some loss.

The possible disadvantage in moving bees without screens is that if there should be trouble enroute, such as the motor giving out, the bees may become uneasy while the truck is stopped for repairs. It is well to keep such trucks in good repair at all times, if possible.

Standardization in Methods of Installing Packages Since the appearance of the editorial on this subject on page 350 of Gleanings for June, 1947, one reader took exception to our idea of standardization and thinks there should continue to be a variety of methods of shipping and installing packages. He says progress along any line comes from trying out new methods.

We are not against trying out new methods—in fact, we encourage experimental work in everything pertaining to our industry. What we had in mind was the fact that each season thousands of beginners who put packages into hives are likely to be confused when they read the many different methods that are used. The experienced beekeeper doesn't bother to read directions for installing bees, but the beginner does.

It does seem essential that we make it as easy and simple as possible for beginners, which means having explicit directions that are easily read and understood. This should be brought up at the next Southern Conference meeting November 26 and 27 at Biloxi, Miss.

Variation of Colonies in the Same Apiary Someone has said that if every colony could be as good as the best what a whale of a crop would be secured. Theoretically it is possible to have all colonies of approximately equal strength. As a matter of fact, there is considerable variation even in the best managed yards. There is bound to be differences in queens. Queens reared from the same mother in the same yard at the same time, vary in quality and performance. This is only natural. In the human family, sisters are sometimes as different from each other as day is from night.

The article in this issue entitled "Does the Queen Make the Colony?", by A. R. Mallory, page 448, touches on a number of factors that may reduce the amount of surplus honey in some hives.

It seems that bees drift away from certain hives into other hives in the same yard. Sometimes the front row of hives seems to secure more surplus than another row in the central part of the apiary. Some say it makes little if any difference which hive the bees enter so long as a crop is harvested. It would be preferable, however, to have approximately the same amount of surplus on all hives.

In our opinion, it is an advantage to have hives some little distance apart, possibly 6 or 8 feet, and to have moderate sized apiaries, possibly 40 or 50 hives, rather than 75 or 100.

The per-colony average in a moderate sized yard is usually higher than the per-colony average in a large yard, especially during a year when honey plants are not abundant. Then, too, during the spring of the year an unusually large apiary may have difficulty securing a sufficient amount of pollen for normal brood rearing, whereas a moderate sized apiary may have no difficulty in collecting the necessary pollen.

This matter of having every colony as good as the best and the supers piled approximately the same height on all hives is a good goal to strive for even though it is seldom attained. Intelligent apiary management does help in attaining success along this line.

From North, East, West, and South

SOUTHERN CALIFORNIA, July 2

Weather in Southern California today is most delightful. Only a few days were above 90 in our locality. In the Imperial and Palo Verde Valleys it went over 100 at times but they expect it as they need the hot weather to properly mature their crops. We usually have thunder showers in the mountain sections but thus far this season they have been minus. One man who has lived for over 50 years in our high mountains predicted that this would be a winter of very light rain and snowfall, and he certainly guessed rightly. He even said that this might be the first of three years of light rainfall.

Crop: The orange and early sage are of course past. Bees on wild buckwheat have stored a little, perhaps as much as ten or fifteen pounds, in favorable locations.

Miscellaneous: Just where to draw the line between Northern and Southern California when it comes to beekeeping we do not know. If we were to divide it equally the line would run east and west about where the city of Palo Alto lies. Many of the large operators have moved or are moving their bees to points north of Bakersfield, some as far as Fresno.

Water storage is reported very low in all streams, reservoirs, and storage basins in Southern California. This is an unfortunate condition coming as it does with our light rainfall. The water being brought from the Colorado River is one source that will furnish the usual amount, dry or no dry season. This water is supposed to be used only for domestic use and is solving the problem of water for the cities that are a part of the Metropolitan water district. Water is the great problem in Southern California cities and they have been able to care for it thus far and will continue to do so in the future.

Bees generally are in good condition and all they want is a chance to gather nectar. Very little sugar was fed during the spring. Many of the larger producers set aside a few hundred fat combs during extracting season just as a safety measure in case a colony is short of stores and needs a little help. Many times these combs have been a life saver to colonies in early spring.

Verily, these letters North, East, West, and South give an interesting cross light on the different parts of the country. Rain without end in New York and west past the Mississippi while we of the far west are praying for rain.

Mr. Coggshall says, "I saw the first white clover blossom two days ago" (June 2). We had the orange off by that time. Now, when they are getting the crop, Southern California beekeepers are scouting around for locations where they hope to get a fill up or a little surplus.—L. L. Andrews, Corona, Calif.

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NORTHERN CALIFORNIA, July 8

The weather during the past month has been quite variable and somewhat unfavorable to beekeeping. Some rain fell the first week and will undoubtedly serve to prolong the nectar flow from one of our main honey plants, yellow star thistle. The total rainfall to date, however, is several inches below normal. Frequent strong north winds have reduced hive activity and caused the loss of some field bees.

Condition of Bees: Most colonies are generally in good condition for the honey flow although those short on stores during May and early June do not have the combs of brood necessary. These are building up on the honey flow at the expense of the surplus. The amount of brood in colonies varies from six to twelve frames with the greatest amount in the stronger colonies having an ample supply of honey.

Floral Conditions: Alfalfa has yielded better than normal so far

and strong colonies have a super or more of surplus. Some few beekeepers have extracted for the first time. The star thistle blossoms are opening but the flow will not be on full for a week or more. There does not seem to be as much star thistle in the grain fields as in previous years.

Market Conditions: Reports come from beekeepers in different sections to the effect that some buyers are not interested in honey at prices above 20 cents. Locally retail prices have been lowered to $1.65 for honey in 5 pound tins with the movement reported better than at the higher prices. One brand in 3 pound jars is retailing at 98 cents. Some poor quality honey in glass, partially granulated, is occupying shelf space. With most food prices at a high level, people are looking more and more for quality in all of the products they buy. With syrups becoming more plentiful, packers will have to use quality of their product as a selling point.

Several producers have reported one northern buyer as giving a rather fanciful reason for not being able to offer more than 20 cents for honey. He is spreading the information that certain cooperatives have a heavy carry-over of honey and this is slowing up the market. Progressive beekeepers read the Federal - State Market Reports as well as the marketing information in the bee journals and know that this is not true. Why this buyer should think that the beekeepers would believe him is beyond the understanding of the producers who discussed this matter with me. The fact is, the amount of honey on hand, both domestic and imported, is lower than normal, and the amount in the hands of the cooperatives is, according to their own reports, extremely nominal in quantity. And just why should any group of beekeepers hold on to their honey during this past year when they could sell on an extremely favorable market? They didn't, of course, and the whole story just doesn't make sense. It would have been better for this particular buyer to have stressed the value of quality in this year's production and to have admitted that they were not buying any more honey than they could move to advantage because of their uncertainty of economic conditions in general.

Miscellaneous: One shipper in southern California recently moved his colonies to Colorado, a distance of approximately 1000 miles, with his truck load wrapped in flexible screen cloth. The weather was hot and the hives were left open. There was no suffocation and the colonies arrived in excellent condition. He said that there was a loss of about a bushel of bees from 100 colonies. The bees collected at the back of the load and apparently starved. Such loss might be prevented if the back row of hives faced backward rather than forward. This loss might indicate the number of bees that would normally be lost when bees are moved that distance with the hives open. This is the first instance, to my knowledge, that an entire load has been screened in this manner. He said that it was very reassuring to him to be able to haul bees along the highway and to stop for fuel without leaving bees behind as trouble makers. The moving of screened colonies during hot weather frequently results in the loss of colonies during the loading process as well as enroute. The screening of the entire load might be the ultimate answer.—J. E. Eckert, Davis, California.

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MISSOURI, June 23

Weather: The late spring and rainy weather has delayed the honey flow. Reports indicate that white clover is spotted. There is some sweet clover, but with yellow sweet clover already having bloomed for two weeks now in some parts of the state, the bees have not been able to do justice to it on account of the rainy weather. Bee-yard work has been a problem and reports from other beekeepers indicate swarming has been heavier than for several years past.

Prices: No doubt the question at the present time is what the price on honey will be. We probably will not get the price that some of us secured during the late fall of 1946. Inquiry for honey is not as heavy at this time as it was last year. It is hard to say right now what effect the lifting of sugar rationing will have, but we should be able to secure a good price for our honey.

Less Corn, More Legumes: Re-

cently, in talking to a farmer on whose place I keep a yard of bees, he said that because of the heavy washing rains of recent weeks he would be compelled to change his farming practice. He intends to quit growing corn altogether and raise legumes instead. He has in mind saving quite an acreage of bird's-foot trefoil. Now bird's-foot trefoil is claimed to be a good honey plant, plus drought resistant. If more farmers could be induced to change over to legumes of that kind, it would be of invaluable help to the beekeeper.

More and more farmers are becoming bee conscious when it comes to legume seed production. A few weeks ago I talked to a farmer who lives some 50 miles north of here and keeps 40 colonies of bees for legume seed production. He has 40 acres of alsike clover and he is letting it go to seed. Later on he intends to harvest an alfalfa seed crop from his field of alfalfa. The thing that struck my fancy was that this farmer knows how to manage bees properly and efficiently, thereby also being able to secure a honey crop. This farmer's bees are a good investment. They will make him money.

Miscellaneous: Soon we will start removing the crop of honey from the hives. Some use the carbolic acid method, but I personally could never be converted to it. Great care should be exercised in using it. There are commercial beekeepers who successfully use it year after year. The bee escape method is all right for the one-yard man, but it is too slow for out-yard work.

If the honey flow is still in progress when starting to remove honey, a good way is to smoke the bees down. It takes only a minute to a hive, then lean the super against the back of the hive and proceed with the rest of the hives in the same manner. When the last super is removed, go back to the first hive and you will find very few bees left in the super. Now, load them on the truck and place an inner cover with an escape on the supers as you stack them up on the truck. When you pick up the last super removed, very few bees will be left in it. One thing to remember is this: Remove only those supers in which the honey is at least 90 percent capped. Bees are easier smoked out of fully capped supers, and the honey is sure to keep. Later on, when there is danger of robbing, smoke most of the bees out of the super and stack it on the truck right away. Place the inner cover over the supers as you place them on the truck. Be sure there are no cracks or openings between the supers.

In another few weeks the Missouri State Fair will be in progress. It would be a good thing if more beekeepers would take an interest and exhibit honey. The Fair offers some very good prizes, plus the advertising a beekeeper will receive.—Carl Kalthoff, Lexington, Mo.

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ILLINOIS, July 7

Weather: What kind do you prefer? We have had all kinds of weather this spring and some of it was not very welcome. We, however, here in eastern Illinois have escaped the floods our less fortunate people in western Illinois have suffered. Our spring was very late and our bees were late also in building up, except where supplement and syrup were fed. It was well that our bees did not reach their peak of strength too early. Bees that were heavy with honey last fall came through winter in fine shape and did not require any feeding. Beekeepers who failed to practice this had to feed very heavily all spring. Swarming appears to be about over at this date, July 7, 1947.

Swarming: The bees really put on a show while swarming was at its best. One of the sad things was that many swarms were hived in nail kegs and other containers owing to lack of bee hives. Beekeepers were frantic to get equipment of any kind. Later we hope to see their bees placed in movable frame hives.

Prices: It is a little too early to say anything about honey prices. One could make a very short review of conditions and perhaps this may reflect some light on prices. Speaking of comb honey, and that is all I could refer to as I do not have any experience in extracted production, last year retail prices of sections were near $16.00 per 1000.

This year the prices are $21.00 to $23.00, and hive bodies, foundation, and all other equipment is slightly higher. Locally, comb honey sold last year at $9.00, $9.50, and $10.00 per case of 24 sections. If these prices were in order this year it would be giving the buying public a fair price to pay, considering the advance in production costs. The release of sugar from rationing will not have too much effect on comb honey.

Miscellaneous: The new clover seeded this spring has made excellent growth. We see an upswing in the amount of sweet clover plantings and allowing some of it to bloom. We may expect a very heavy heartsease flow next month because of the heavy rains all spring. —Carl E. Killion, Chief Apiary Inspector, Paris, Illinois.

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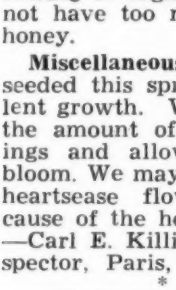
MASSACHUSETTS, July 5



Weather: Upon the whole the past spring has been cold and quite disagreeable bee weather. During the fruit bloom there was nearly a week when bees found it too cold to do effective pollination. However, there was one extremely warm day during that week when bee flight was excellent and which gave them an opportunity to pollinate fruit. Cold weather also retards blossom development, and it is an exceptional year when the bees do not find the opportunity to do their work. Colonies gained weight and this in itself is an indication of good work. Fruit men find bees the most profitable when the bloom period is unfavorable. A few hours of bee flight in an orchard may mean a profitable fruit crop.

June was pleasant, with sufficient rains to maintain vegetation. The rains of May were above normal, which built up a good reserve of soil moisture.

Honey Situation: While it is our practice to leave more honey with bees than they can possibly use, because of our extensive out-apiary management, and the great importance of populous colonies for orchard rental, we have never seen a year when less feeding was necessary. There has been no starvation, and much of the stores left with the bees are still on the hives. The wild cherry bloom was very late this spring because of the cold spring, and the bees were back from the orchards and on their summer locations in time to take advantage of the full crop. While clover is not as plentiful here as we would desire, favorable locations have shown fine gains. Apiaries located only a few miles from very good clover locations may show absolutely no gain. It would lead us to assume that the most profitable flight range is less than two miles. Bees may fly three or four miles if necessary, but such long distances in unfavorable flight weather take a terrific toll in bee life and wearing away of wings. We have a fair crop of honey now on the hives, and prospects point to a better than normal mid-summer and fall crop. It looks as though the crop we have waited for for the past two or three years is due to favor us.

Miscellaneous: This has been a good year to make increase in spite of the high cost and the fact that equipment is not available. No pampering of colonies has been necessary and early divisions now require supers. We are repairing our old frames and hives and filling them. The stack of old equipment is getting smaller day by day and the funny part is that the bees do as well in an old hive full of cracks as in a new aluminum covered hive even though this new cover appears cool to the touch even in the bright sun. The most important hive essentials are proper bee spaces below the frames, above the frames, at the ends of the frames, and between the frames. Burr comb causes much loss in time and bee energy, and much cussing.

While a nice new cover and bottom may look better, a few inch strips nailed on some old boards will serve for a bottom board, and a few boards covered with roofing paper, a piece of tin, or what have you, that's waterproof will do. Watch that bee space though, for the bee space is the most important, and keep the bees dry. When equipment becomes available transfer the frames containing the bees into new equipment. While bees may be kept

in makeshift equipment if full sheets of foundation and frames are used, much of the pleasure and convenience is gained in using standard factory-made supplies.

Honey prices must remain equal to last year because of high cost of supplies and general high living costs. The day of low prices of honey will return, but must not return until the other living expenses drop to a lower level. Charge a fair price for honey in proportion to other commodities. A pound of butter was used in olden times here as a price for honey. Butter costs 70 cents. Honey should be worth at least 60 cents in single pounds and $2.25 in five pound jars. A beekeeper who charges less for his honey cannot expect to buy any new hives or make replacements in his equipment. This is Massachusetts where the Pilgrims threw the King's tea into the harbor rather than pay high taxes. Everything here is taxed now and there appears to be nothing we can do about it. Some states may have a lower cost of living, and your prices may be based accordingly. While I do not believe beekeepers should overcharge, I do believe they should keep in line.—R. E. Newell, Medway, Mass.

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NEW YORK, July 5

Weather: Because of heavy rains through May and the forepart of June, the honey season is late. The latter part of June was ideal for a good honey flow. During the early part of July the days were hot and nights were cool with a little shower every day. However, it is reported that no rain has fallen around Geneva for two weeks.

Crop Prospects: In New York State the prospects are usually good. Average yield of 30 lbs. on colonies around this section reported at this time. Farmers were unable to plant the regular early crops, which will tend to increase the prospects for a buckwheat flow. Basswood is budded full and may yield a good crop with favorable weather conditions. Clover is still in bloom which indicates the flow may last several days. It is impossible, however, to estimate a crop of honey.

Market: As for the price of honey, it is a delicate situation to attempt any estimate. One beekeeper has suggested 18 to 20c per lb. wholesale. If the price of honey is too high, sales will slow down which will result in a large carry-over in the fall. If the price is too low, the beekeepers will be unable to pay high wages and the high cost of supplies. Most stores have little or no honey on hand. Some grocers carry a small stock of 8 oz. glass at 30c retail.

Miscellaneous: The Dutchess County beekeepers met at the home of J. H. Joyce recently. Dr. E. J. Dyce was present. It was suggested that three regional inspectors be hired on a full year basis under A. C. Gould, State Inspector.

This being my first attempt to write for the Department, I wish to acknowledge the assistance of Mr. Walter Vogel, Mr. Albert R. Gage, and Mr. William Sossei, beekeepers of New York State interested in the advancement of the bee industry.—Roscoe F. Wixson, Dundee, N. Y.

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COLORADO, July 7

Weather: Here in eastern Colorado we have been blessed, and at times overblessed, with moisture this season as the precipitation has been well above one and one half times that of normal, causing some flood damages. Freakish snowstorms overlapped into late May and even June.

The frequent rains during spring were very beneficial to the plants, and various minor sources produced nectar and pollen for brood rearing. This was especially true regarding the plums which yielded heavily. This, coupled with other factors, resulted in more swarming than in several seasons.

Crop Prospects: The first cutting of alfalfa is past, and in spite of the adverse climatic conditions of intermittent rains and cold, the bees secured enough honey from it to fill the brood chamber and tuck some into the supers. The general outlook

for a fair crop is good as the plant condition is excellent and the supply of irrigation water is bidding its best.

Price: By the time this will be in print new honey will have found its way to the market. We will probably not be able to get as much as we did for the last crop but the price should hold up comparatively well. Mrs. Housewife will be a deciding factor in establishing the price.

Miscellaneous: In a lawsuit for damages done to his bees by bears protected by state game laws, a beekeeper here was awarded $750. Last fall while fattening up for their winter sleep, a mamma bear, a papa bear, and a baby bear found that a honey diet was just the ticket. So, by making regular raids to the beekeeper's apiaries they had found a bill o'fare that would fill a bear. After making about a dozen nocturnal raids things got badly messed up. However, under the Colorado game laws the state is responsible for damages done by game protected by the law.—G. A. Pauli, Pueblo, Colo.

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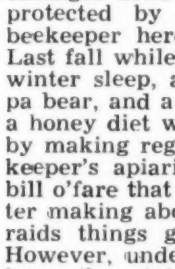
NEW JERSEY, July 10



Weather: If nothing else is said of the weather, there surely has been an abundance of rain in New Jersey so far this season. This still continues at this date so there is no shortage of soil moisture.

Condition of Bees: Although the spring has been backward and many colonies became very low in stores, both honey and pollen, they developed nicely and now are in good condition to take advantage of any honey flow which may develop, provided weather conditions favor. Swarming has been much of a problem because of bees being shut up in the hives so much of the time.

Pollen and Nectar Plants: Although there were many days when bees could not fly and gather the great abundance of pollen and nectar producing plants furnished, an abundance, when gathering, was possible. Tulip poplar produced abundantly this year. This tree usually blooms to a certain extent every year, but it is only about once in five years when it blooms abundantly and is of major nectar producing proportions. This year was one of those. There is more white clover in evidence than has been the case for many years. The wet weather has made a lush growth of goldenrod and asters which will produce a sizeable honey crop in the north central part of the state, weather conditions favoring. Sumac is very heavily budded and will give a good crop in the north central part of the state, also depending on the weather.

Honey Market: There is very little movement in honey and probably no new crop will be available until early fall. What is moving shows no change in prices.—E. G. Carr, Pennington, New Jersey.

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SASKATCHEWAN, July 12

Weather: In common with most of the rest of this continent, Saskatchewan experienced cool backward weather during the spring. A heavy covering of snow remained long after packages commenced coming in. Cool weather continued until the end of June, followed by a heat wave. The southern half of the province has well above average moisture and conditions in this area are excellent for a honey crop. The northern half of the province, where most of the honey is produced, is not in this fortunate position. Spring rains have been very light there and immediate moisture is required to produce even an average honey crop.

Package Bee Troubles: From time to time serious queen supersedure is experienced in package bees but this spring the loss from this was more serious than ever before, ranging all the way from 10% to 80% and averaging something like 30% to 40% of the queens received from the eastern shipping states. The way packages are handled in transit or in hiving has a great deal to do with the way queens are accepted but this year all these contributing factors to queen losses can be ruled out as the main cause of queen failure. The weather at the receiving end is also a factor in queen acceptance

but this year this also was not the factor causing the serious loss of package queens, because packages received from the west coast, hived under identical conditions, went right ahead with practically no supersedure, whereas packages received from the eastern shipping states all, or practically all, had heavy supersedure.

We have, therefore, come to the conclusion that weather conditions in the South at the time of raising the queens and package bees and shipping them this year were the factors which resulted in this heavy queen loss. Apparently this weather allowed some condition to develop in the bees themselves which resulted in the death of such a large proportion of the queens. The confusing fact was that most of the queens would be accepted, would commence to lay, and after they had laid a frame or two of eggs, without any warning the queens would disappear. Some colonies we have checked have been infected with Nosema. However, most of them do not seem to have any trace of Nosema present and there is some condition, other than Nosema, that is responsible for this loss. There is urgent need for the experimental stations to do some work on this problem immediately. Package purchasers cannot possibly afford to suffer losses such as this and package shippers are in just as bad a position since replacements are heavy and whatever they do they cannot hope to satisfy their customers.

Condition of Bees: Colonies which did not lose their queens have come ahead and are now in splendid shape in spite of the cool spring and backward weather. Sweet clover is now just coming into bloom and where moisture conditions are good an excellent crop can be expected.—R. M. Pugh, Provincial Apiarist, Fort Qu'Appelle, Saskatchewan.

* * * * *

TEXAS, July 9

Weather: The temperature for June was above average with the thermometer exceeding 100 in many sections toward the close of the month. Rainfall was rather variable. While most sections received abundant rain, many local areas received very little. In this immediate area a drouth has prevailed since late May.

Honey Crop: In the eastern half of the state horsemint was very abundant and yielded perhaps the largest crop of honey from this source in nine years. In southwest Texas extracting of a better than normal crop has been completed. The mesquite bloom came rather late and produced only a small portion of the total crop. In central Texas horsemint and marigold yielded well. A fair portion of the total crop came from sweet clover which was cut short by hot and dry weather. In north Texas sweet clover is still yielding well and a large crop is now being extracted. Cotton acreage is larger than in several years and as damage from insect pests is smaller than usual, less dusting of this crop is necessary. More apiaries will remain in the cotton area and a fair crop of cotton honey is expected. East Texas with honey from many sources is expected to produce a normal crop. In all, the honey crop of the state apparently will be normal although probably less than in 1946.

Honey Market: The honey market at present is less stable than it has been in many years. Industrial users are buying less honey. Honey is meeting a competition from preserves, jellies, and other sweets entering the market in considerable quantity at prices consumers will pay. Grocers and consumers are looking for comparable prices of honey. Packers are unable to meet these prices from stocks acquired early in the season. Because of slow movement of honey, some producers are offering their crops at greatly reduced and widely fluctuating prices, with the result that packers hesitate to accumulate large stocks. In the face of competition honey will again have to stand on its own merit. Honey will do this and remain popular with consumers if prices are not out of line. If producers will refrain from cutting under the prices of their neighbors, market their crop on a year round basis, and in line with cost of production, the 1947 crop will bring a fair margin of profit, more than the war-time ceiling price offered.

Miscellaneous: The Texas Beekeepers' Association will hold its annual meeting at College Station in November at a date yet to be announced. At a meeting of the San Antonio District Beekeepers on June

27, Dr. F. L. Thomas, State Entomologist, spoke of plans of inspection, with an increase in personnel in the Apiary Inspection Service. Mrs. R. G. Ordetx spoke of her studies with bee plants in Cuba and Texas. The recently organized Kaufman County Beekeepers' Association brings to five the number of local beekeepers' organizations within the state. Kaufman County is an important honey producing area where vetch, sweet clover, and cotton, as well as native plants, constitute the source of honey.—A. H. Alex, San Antonio, Texas.

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ONTARIO, July 8

Weather: For the past four weeks we have had normal weather here in Ontario, and that of course means that the honey season is much later than usual, owing to the very late spring that preceded this period. Following continued wet weather that prevented a lot of grain from being sown until too late for such crops as oats, barley, etc., we have had a dry spell of two weeks or more that was broken during the past two days by a fairly good rain. Already white Dutch is springing into bloom, and judging by past similar conditions, we would not be surprised if a good honey crop is secured if weather conditions should be favorable for the next few weeks.

Crop Prospects: Conditions in our own apiaries at present are very different in York County where we live, to what they are in the section of Victoria County where we have a number of apiaries. In half a dozen apiaries adjoining suburbs of Toronto, the flow has been very good and prospects point to a fair crop in that locality. On the contrary, up in Victoria County where the drouth was severe last summer, scorching the clover badly, but little was apparent in the supers when the boys were up there last.

But to balance things up a bit, we have hopes of a crop from buckwheat, as much of this crop has been sown this year on land that was too wet to permit seeding of the usual grains.

Miscellaneous: Just a few days ago, Prof. Townsend, our Provincial Apiarist, and T. H. Shields of Ontario Honey Producers Cooperative, called at our home on their way down from New Ontario, up New Liskeard way, where they had been on a trip to look things over apiculturally. We learned that a number of well known beekeepers from southern Ontario had moved a lot of bees up there this spring, taking them from districts south and west of Hamilton principally. Reports they gave us as to how the bees have done already, with the clover crop just starting to open, makes me wish that I were a bit younger so I could take a plunge along with the rest of the boys. However, after looking up my birth certificate, we decided to not move any bees for this season at least. They told us that colonies moved up to this bee paradise (over 400 miles straight north of Toronto) had about 70 lbs. stored already, and alsike, growing everywhere, was just starting to bloom.

While the beekeepers up there claimed that this surplus was stored from dandelion, both Mr. Shields and Dr. Townsend claimed that the honey would grade white in color and I personally would make a guess that the bulk of it came from bluebe.ries which grow in profusion on hundreds of acres of rocky soil adjoining the fertile valley in which so much clover is grown. Thirty eight years ago the writer was at New Liskeard and I was amazed at the time to see water white honey coming in about August 20th. We found that this flow was from great willow herb, locally called fire weed, as this plant comes on after a forest fire has cleared off the land.

In Gleanings, just to hand, we note an inquiry as to the feasibility of producing honey without the use of queen excluders. Just a few days ago, Mr. Stewart Jackson of Walkerton, Ont., was here and he described how he is doing this successfully with over 800 colonies run for extracted honey. He winters in a single story ten frame Langstroth brood chamber. As room is needed he gives each colony an extra story of DARK combs. He has three supers for every colony of selected white combs and these are added as needed. He says that he hasn't enough brood rearing above the

dark combs to make any trouble. We personally know Mr. Jackson very well and have confidence in what he says.—J. L. Byer, Markham, Ontario.

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SOUTH CAROLINA, July 1

Weather: The spring has been very unseasonable. It has been cold or very hot. The first of May until the last of June was very dry until it looked as if the only plants growing dried up before they bloomed. Then, in June, it started to rain and was very cold around the 20th and 21st. For about four days it was cold enough to have a little fire. Since then we have had showers often and the temperature is about normal. Even with this extreme weather condition, the bees have gathered a fair to good crop in some localities. Other localities have been very poor. The beekeepers who make a practice of moving their colonies to a mountainous section to gather sourwood have already moved. We are just hoping that they will get a good big crop of sourwood.

Honey Movement: Honey has been very easily sold and some of our largest producers sold without any trouble at all. I am afraid that most of them are selling so much of their honey they will not have enough to supply their regular customers during the winter.—E. S. Prevost, Clemson, South Carolina.

New Georgia Bee Regulations

During 1946, the Georgia Department of Entomology inspected over 20,000 colonies of bees for migratory beekeepers from 15 states and Canada. With the removal of war restrictions on gas, tires, and trucks, the migratory movement has greatly increased. During the past few years most of the Southern package producing states have put on comb embargoes to stop this movement. When comb embargoes are put on in other southern states, the migratory movement into Georgia increases. The eradication and control of disease, caused by the increasing migratory movement of bees, is the greatest problem of the Georgia Department of Entomology. There is no charge for inspection in Georgia and one third to one half of the annual appropriation is spent on migratory bees.

A special meeting of the State Beekeepers' Association was called and the problem was discussed. The State Association recommended that new regulations on the migratory movement be established in place of a total comb embargo. If the migratory beekeepers do not cooperate and it is found that the new regulations do not give a better control of disease caused by the migratory movement, then a total comb embargo may be put on. Copies of the new bee law may be obtained by writing to Mr. C. H. Alden, Director, State Department of Entomology, State Capitol, Atlanta, Georgia. It is suggested that migratory operators obtain copies and study them before they move bees on combs into Georgia. This will save the beekeeper and the inspector embarrassment, time, and trouble.

The new Rules and Regulations, as promulgated by the Director of Entomology, effective June 15, 1947, are as follows:

"1. The shipment or movement into this State of any honeybees on comb, honeybees in hives, honey comb, frames, used bee shipping cages, second-hand honey containers or used beekeeping fixtures, is hereby prohibited except under Special Permit issued by the Director of Entomology.

"2. A Special Permit will be issued under the following conditions: When the Director shall receive a certificate from the official apiary inspector of the State of Origin certifying (1) that the apiaries of the shipper have been inspected annually, including one inspection within a period of 30 days preceding the date of shipment, and (2) that no American foulbrood, European foulbrood, or other infectious diseases have been found in the apiaries of the shipper for a period of two years prior to the date of the certificate, and (3) that all foulbrood has been destroyed by burning.

"3. Permits will not be granted when sulfathiazole has been used

(Continued on page 503)

Price of Honey

So many readers have shown interest in the price of honey we have attempted to get an expression of current prices from beekeepers over the country. These reports are based on several reports for each state averaged with all of the reports in the region. Where insufficient reports were returned prices have been omitted from the chart. More reporters seem to be able to gauge the retail market price than the wholesale price and for this reason some inconsistencies are evident in the mark-up between the wholesale price to grocers and the retail price. No doubt as the months progress and more of the crop comes on the market these prices will become better established.

MONTHLY HONEY PRICE REPORT (Price expressed in cents per pound)

	North-east	South-east	North Central	South Central	Mid-west	North-west	South-west
Bulk Honey							
Table Grade	23c	20 to 25c	17 to 25c	20 to 25c			18 to 23c
Industrial Grade	19	19 to 20	14 to 20	14			15 to 20
Price to Grocers							
5 lb. jar or can	30	25 to 38	31	23 to 33		25 to 33	24 to 33
3 lb. jar	33	22 to 35	31	28 to 36			27 to 33
2 lb. jar	37	27 to 37	33	28 to 36		29 to 38	23 to 33
1 lb. jar	39	30 to 39	37	30 to 37		30 to 36	31 to 34
Comb Honey (24's)							
Retail Price							
60 lb. can	27 to 30	25 to 33	25 to 30	35	25 to 30	20 to 34	25 to 30
5 lb. jar or can	40 to 50	33 to 40	30 to 40	29 to 40	39 to 45	30 to 48	32 to 39
3 lb. jar	45 to 55	28 to 41	30 to 45	33 to 41		38 to 53	
2 lb. jar	40 to 50	32 to 47		35 to 45	52 to 57	32 to 49	39 to 47
1 lb. jar	40 to 60	35 to 70	39 to 59	39 to 63	49 to 57	35 to 59	39 to 65
Honey Sales	Fair	Fair	Fair	Slow	Slow	Slow	Slow
Estimated Crop Conditnions based on normal	85	65	73	108	71	79	57

80 YEARS AMONG THE BEES

(Continued from page 469)

practical use two-story hives, both units of which were exactly the same dimensions, outside and inside. His early idea was not to raise more brood or make bigger colonies but to provide extra room for the storage of honey. Inadvertently, he put into practical use a great principle—the need of much stronger colonies than could be reared in a single story. (Queen excluders had not yet been discovered, so he could not confine the queen to the story below or to a single story.) The result was that he was able to produce a barrel of honey from a single colony, and 6000 lbs. from 48 colonies. This fact startled the bee world. He produced so much honey he talked about building cisterns for storing it because he had used up all the utensils—barrels, bottles, cans, etc., from his neighbors. He then went into the business of bottling honey in 3-lb. Mason jars which sold for 75c. These could be used to good advantage by housewives and he made quite a point of this.

He did not discover the importance of large colonies—larger than could be raised in a single brood nest. That honor goes to Charles Dadant. In 1894, E. R. Root did not see why two hive bodies of Langstroth dimensions could not accomplish the same results secured by Charles Dadant with a larger single story hive body. While E. R. Root was the first to advocate this principle, the honor, after all, of the first use of it in a commercial way belongs to A. I. Root (1878). Literally thousands of beekeepers have adopted the two story hive principle and have increased their crops of honey accordingly.

(To be continued)

JUST NEWS

(Continued from page 476)

Saturday, August 9, 1947. All beekeepers, their families, and friends are welcome.—E. T. Cary, Sec.-Treas.

The North Carolina State Beekeepers' Association will hold its annual summer meeting in North Wilkesboro at the Town Hall on Friday, August 1. This location is in the famous land of the sky and gives promise of both a vacation and a well worthwhile meeting.—Further details can be secured from the County Agent's Office in Wilkesboro, N. C.—F. B. Meacham, Sec.

Buy and Sell Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 12c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Manufacturers of Bee Supplies, Onsted, Mich.

BEST GRADE HONEY FOR SALE—in large quantities, 25c lb. in your containers. E. R. Raley, Box 1610, Daytona Beach, Fla.

WHITE and amber honey for sale in 660 lb. drums, 60 lb. tins, and in glass jars. Alexander Co., 819 Reynolds, Toledo, Ohio.

THIS YEAR'S Florida crop high grade amber honey, own production, ready to bottle, 31c lb. in 60 lb. cans. Brown's Apiary, Cape May Court House, N. J.

100 BARRELS EBY'S TUPELO HONEY; packed in steel drums; from our apiaries in the heart of the white tupelo belt in Florida. Write us for our special pack for diabetic demand, for health food and drug store trade. Hyland Apiaries, West Elkton, Ohio.

LIGHT AMBER clover honey in 60 lb. cans. W. C. Long, 1325 Andre St., Baltimore, Md.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C. O. D. terms except where the buyer has thoroughly established his credit with the seller.

WANTED — White and amber honey, any amount. D. F. Treap, 316 Keenan Ave., Cuyahoga Falls, Ohio.

WANTED—Comb and extracted honey. Send sample and quote price. John Harnack and Son, McGregor, Iowa.

HONEY & BEESWAX — Highest prices paid. Mail samples. Advise quantity. BRYANT & SAWYER, LOS ANGELES. CALIFORNIA.

WANTED—EXTRACTED HONEY—Clover or Light Amber. C. H. Denny, 483 Moody St., Akron, Ohio.

CASH FOR YOUR HONEY—Extracted or comb. Regular trade, send sample. 60-lb. cans furnished, if desired. W. R. Moomaw, Stone Creek, Ohio.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce St., Los Angeles, Calif.

WANTED — Light extracted honey in 60's Clover preferred. J. Jones, 115 W. 82nd St., New York 24, N. Y.

HONEY—White clover chunk comb and section, any quantity. Quote prices. Lose Bros., 206 E. Jefferson St., Louisville, Ky.

HONEY WANTED—All grades. Carloads or less. Also beeswax. Pay top prices. H. & S. Honey & Wax Co., Inc., 265-267 Greenwich St., New York 7, New York.

ALL GRADES of white and amber honey wanted. Carloads or less. Mail sample and price. Alexander Company, 819 Reynolds Rd., Toledo, Ohio.

WANTED—Clover extracted and comb honey. Any quantity. State price in first letter. C. Jankowski, Prairie View, Ills.

COMB HONEY WANTED—Advise quantity and size section. F. H. Hauck, P. O. Box 84, Kew Gardens, N. Y.

FOR SALE

BEST BEE HUNTING OUTFIT. Grover, Bristol, Vermont.

FOR SALE—60-lb. used cans in wood cases, 2 cans to case, 40c per case. Joseph Fekel, Vineland, N. J.

QUEENBEE PAINTING OUTFIT, $1.00; colony records, 10-15c postpaid. Southwick Apiaries, Waban, Mass.

HONEY LABELS — Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples and prices. C. W. AEPPLER COMPANY, OCONOMOWOC, WIS.

WRITE FOR CATALOG — Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Mich.

We carry a complete stock of bee supplies and honey containers. Write for our price list. Prairie View Honey Company, 12303 12th St., Detroit 6, Mich.

SIMPLEX TRAP clips queens without handling. $1.75 postpaid. INSTANT FRAME spacers, seven-eight-nine, fast—accurate. $1.50 postpaid. Free circulars. George Leys, 48 Drake Ave., New Rochelle, N. Y.

WRITE FOR LOW CASH price glass jars and 5 lb. tin pails. Complete stock. Prompt shipment. Roscoe F. Wixson, Dundee, N. Y.

BEEKEEPERS' SUPPLIES — Local beekeepers first. If inquiry not answered within week we have nothing for you. L. M. Deming Company, Edmeston, New York.

FOR SALE — High quality medium brood foundation at 80c per pound. Fred Peterson, Alden, Iowa.

FOR SALE—Galvanized 30 gauge metal tops for standard wood hive covers. Now is the time to replace roofing paper covers. 1-99, 38c each; 100 or over, 35c each. Scientific Heater Co., 1223 Sylvania Rd., Cleveland Heights 21, Ohio.

HONEY WANTED

Carloads and less than carloads. Mail sample and best prices in all grades.

C. W. AEPPLER COMPANY

Oconomowoc, Wisconsin

HONEY WANTED

Mail your offerings and samples to us. Prompt cash on receipt of Honey.

Jewett & Sherman Company

Lisbon Rd. & Evins Ave.
Cleveland 4, Ohio
1204 W. 12th St., Kansas City 7, Mo.

HONEY WANTED

For Export and Domestic
All Grades - Any Quantity

Foreign Commodities Corp.

100 Hudson Street
New York 13, N. Y.

Comb Honey Wanted

Advise quantity you have—
size section and how packed.

Frank H. Hauck

P. O. Box 84, Kew Gardens, N. Y.
Bank reference furnished on request.

Honey Containers

1 lb. jars, carton of 24	$0.90
2 lb. jars, carton of 12	0.55
5 lb. jars, carton of 6	0.50

Clifford H. Denny

483 Moody St., Akron 5, Ohio

Queens — Italian — Queens

Three-banded, Northern-bred for business. Safe arrival guaranteed, 50th breeding season.

Unt., $1.25; 3, $3.50; 6, $6.50; 12, $12.50. Sel. Unt., $1.35.

I. F. Miller

Warren, Pa. R. 3.

HONEY LABELS

Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.

C. W. AEPPLER COMPANY

Oconomowoc, Wisconsin

200 COLONIES of bees for sale, 4 super deep, honey included. Must sell by August 17 to highest bidder. Bees inspected. Ray Calloway, Boscobel, Wisconsin.

FOR SALE—400 ten frame shallow extracting supers and 150 Modified Dadant supers complete with frames and comb well painted. 200 new Dadant supers with frames, knocked down. R. L. Farrington, Henderson, Ia.

FOR SALE—Standard 8 and 10 frame bee hives. Number 1's, 92½c each. Hoffman frames, $7.00 per 100. Four cleat covers, 70c each. Bottom boards, 70c each KD and FOB factory. Write for catalog. Satisfaction guaranteed. HAGEN-LUNCH FORD MFG. & SUPPLY, 2500 NORTH FOURTH STREET, COEUR D' ALENE IDAHO.

FOR SALE—VOHO Entrance Closures. They save you valuable time, your bees and your equipment. VOHO Entrance Closures securely screen an entrance in less than 3 seconds. VOHO Entrance Closures automatically lock into position when placed in the entrances. There are 12 distinct occasions when VOHO Entrance closures will facilitate your bee keeping operations. VOHO Entrance Closures allow maximum ventilation with the least disturbance to the bees. Write for quantity prices and facts about these amazing new aids to beekeeping. Priced to sell—Upper, $0.80—Lower, $1.30. Satisfaction guaranteed. VOHO PRODUCTS R. F. D. 2, Ogdensburg, New York.

FOR SALE—Complete 10 frame standard hives made of Douglas Fir, including top and bottom boards, $5.50 each; 5 for $25.00. Full depth supers, $1.60; 5 for $7.50. F. O. B. Jackson. Koch's Woodworking Shop, 655 Winter St., Jackson, Miss.

FOR SALE—Package bee business in the South. Immediate possession. Box 81, Gleanings, Medina, Ohio.

ENTRANCE SCREENS close hives instantly for moving. Sample prepaid, 25 coin. Vikla Manufacturing Co., Lonsdale, Minnesota.

FOR SALE—40 eight frame hives, Italians. Write Chas. Pyle, Paris, Ill., for details.

FOR SALE—320 acre farm located in San Luis Valley, 6 room modern house, barn, and other buildings. Water right. Also Artesian wells. $9500 cash. Donald R. Davis (owner) Route 2, Box 209, Alamosa, Colo.

300 SHALLOW SUPERS with frames (10 frame), $1.50 each. One 4-frame reversible Woodman extractor, $25.00. W. Boyd, R. 1, Centerburg, Ohio.

USED BEEKEEPING EQUIPMENT. No foulbrood. Herbert Reim, 924 Labare St., Watertown, Wisconsin.

ONE four-frame automatic hand extractor, A-1 condition, $60.00 here. Lavern Depew, Auburn, N. Y.

ATTRACTIVE HONEY LABELS—Your own wording. 1000, $2.00, postpaid. Also new Ingraham wrist watches, rolled gold case, $5.25; or C. O. D. Brooks, B 12, B. J., Arkansaw, Wisconsin.

Pure Northern maple syrup in 5 gallon or 1 gallon containers at $4.85 a gallon. The Alexander Company, 819 Reynolds Rd., Toledo, Ohio.

BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisements, but we cannot be held responsible in case disease appears among bees sold. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

MILLER & EVANS — Booking package bees for spring delivery. Write. Caucasians. Miller & Evans, Three Rivers, Texas.

GOLDEN ITALIAN QUEENS, good honey gatherers and easy to handle and a pleasure to look at. Untested queens, $1.25 each. Tested, $2.50. Carolina Bee Farm, Graham, N. C.

YOUNG vigorous Italian queens, certified, $1.00. Rev. William I. Gray, Prospect, Pa.

CAUCASIAN QUEENS to fill your hives with gentle high producing bees. Howard Crom, Ripon, Calif.

EARLY PACKAGE BEES. Prompt shipment begins May 10. Two pound package and queen, $6.00 postpaid. Three pound package and queen, $7.00 postpaid. Choice Italian queen, $1.50. Safe arrival guaranteed. Birdie M. Hartle, Reynoldsville, Pa.

GOOD ITALIAN QUEENS, $1.00 each. D. W. HOWELL, Shellman, Georgia.

IMPROVED ITALIAN QUEENS—$1.00. From a strain that produced over 600 lbs. of honey per colony. Henry Loehr, Jr., Caldwell, Texas.

HONEY-FLOW ITALIANS — Northern QUEENS scientifically raised and carefully selected to please. Immediate shipment. 1-3, $1.50; 4-up, $1.25; Greulick & Son, Altamont, New York.

CAUCASIANS—June delivery. Limited number package bees. 2 lb. pkg. bees, $5.00; 3 lb. pkg., $6.00. Untested Queens, $1.25 each. Lewis & Tillery Bee Company, Greenville, Alabama.

CAUCASIAN QUEENS, $1.00 each. C. B. Eppling, "Idlewilde", COVINGTON, VIRGINIA.

ITALIAN QUEENS—$1.10, any number. Satisfaction assured. Shipped by airmail for better service. Lange Apiaries, Llano, Texas.

NORTHERN BRED QUEENS — Hardy honey producing Italians, $1.00 each. Shirl Baker, Rodney, Michigan.

ITALIAN QUEENS reared from my best producing hives, 90c each. Health certificate furnished. Kirkwood Apiaries, Box 142, Bristow, Oklahoma.

BREWER'S LINE-BRED CAUCASIAN QUEENS — Queens for immediate shipment, any number, $1.25 each. We ship by Air Mail. No package bees. PLEASE NOTE NEW ADDRESS. Brewer Bros. Apiaries, 3616 Caucasian Circle, Tampa 6, Florida.

REPLACE those old queens with young Italian queens this fall. Queens $.90 each by Air Mail. Walter D. Leverette, Box 364, Fort Pierce, Florida.

SELECTED hardy Italian queens from heavy honey producing stock. Northern bred, northern raised. Each, $1.25. Baker's Apiaries, Glencoe, Illinois.

York's

Package Bees & Queens
Quality Bred Italians

Balance of season prices.
Plenty of bees and queens
and prompt shipments.

2-lb. pkg. with queen, $4.50 ea.
3 lb. pkg. with queen, 5.50 ea.
Queens 1.50 ea.

Booking orders now for 1948, let us hear from you with reference to your requirements for the coming season.

York Bee Company

Jesup, Georgia
(The Universal Apiaries)

MOORE'S STRAIN

Away back in 1879 I commenced rearing Italian queens with the object of improvement constantly in view. By careful selection during all these years I have succeeded in producing a strain of three-banded, leather colored Italian bees known as Moore's Strain of Italians which has won a world-wide reputation for honey gathering, hardiness, gentleness, etc.

Send for descriptive circular and read reports from those who have tried them. Untested queens, $1.25 each; 6 for $7.00; 12 or more $1.00 each.

J. P. Moore, Falmouth, Ky.
Route 3
Former Address: Morgan, Kentucky
Safe arrival and satisfaction guaranteed

QUEENS

For All Your
Requeening Needs
Selected Italians

$1.00

The Puett Co.

Hahira, Georgia

THE JOHN M. DAVIS STRAIN

ITALIAN QUEENS

BRED THE DAVIS WAY

Guaranteed to please

Untested ..... $1.25 each
Tested ..... 2.00 each
After June 30th, 1.00 each
Untested only

Cash with order

Little's Apiaries

P. O. Box 122
Shelbyville, Tennessee
Where Quality Reigns

Three Banded Italian Queens

After June 1st
1 to 11, $1.00 each
12 to 49, .95 each
50 or more, .90 each

Because of the extremely late Spring, we cannot accept any more orders for package bees.

John C. Hogg
Apiarist
Tifton, Georgia

Requeen Now with
HOMAN'S QUEENS

Prices:

1 to 49	$1.10
50 to 99	1.00
100 up	.90

Homan Bros.
R 2 Shannon, Miss.

Queens for Requeening

If you are looking for quality in bees, then it's our well known Mott strain you want. They are honey producers, gentle, less inclined to swarm.

Prices Queens

1 to 24, $1.10; 25 to 99, $1.00; 100-up, 90c.

Taylor Apiaries

Box 249 Luverne, Ala.

Queens of the Golden West

Buy Western-bred queens and package bees for best results. We are now booking orders for spring 1948.

CLIFTON APIARIES
Oroville, Box 684, California

HELP WANTED

WANTED — Experienced queen yard man. Year around employment in yards and shop. We can furnish a good modern home to live in. Give full information, age, experience, and salary expected in first letter. H. C. Short, Fitzpatrick, Ala.

WANTED — Experienced queen and package bee men for our apiaries. Only honest reliable men considered, no boozers. Give full information, age, exepri-ence, reference, and salary expected in first letter. Good opportunity for right parties. YORK BEE COMPANY, JESUP, GEORGIA.

DEPENDABLE QUEEN BREEDER who can produce Carniolan queen bees, for 1948 season. EPHARDT HONEY FARMS, PLAUCHEVILLE, LOUISIANA.

WANTED—Strong reliable young man to help with our 23 apiaries this fall, and possibly in 1948. State age, height, and weight. Ray C. Wilcox, Odessa, N. Y.

OPPORTUNITY for young man, preferably married, willing to work hard, to learn beekeeping as helper. Prevailing wages with chance to operate on mutually satisfactiory terms when ability is demonstrated. Applicants please give experience, references, personal qualifications. Roger Lane, Trumansburg, N. Y.

WANTED—Capable man for bee inspector in Colorado. Write E. H. Wadleigh, Monte Vista, Colo.

WANTED—Manager to operate package bee business in the South. Box 800, Gleanings, Medina, Ohio.

WANTED TO BUY

WANTED—100 to 200 colonies bees, within hauling distance in November. Longenecker, Elvins, Missouri.

WANTED— A labeling machine for labeling jars. E. C. Hawley, 220 N. Elm St., Iola, Kansas.

SUPPLIES

Here's what you have been waiting for. THE NO. 10 ELECTRIC UNCAPPING KNIFE. The best knife on the market. Uses either A.C. or D.C. 110-volt current. Blade, 10 in. long, 2⅛ in. wide, ⅛ in. thick. High carbon knife steel. High and low heat. Faster than most steam knives. Order two, have a spare. Satisfaction guaranteed. Price, $12.00 f.o.b. Minneapolis. HONEY SALES COMPANY, 1806-08 North Washington Ave., Minneapolis 11, Minn.

ATTENTION N. W. BEEKEEPERS

HONEY CONTAINERS will again be difficult to obtain this year. We have 1-lb., 2-lb., and 5-lb. glass jars, and 5-lb., 10-lb., and 60-lb. tin pails in stock. Be wise, order at least part of your container requirements now. You'll be glad you did. Send for price list. HONEY SALES COMPANY, 1806-08 No. Washington Ave., Minneapolis 11, Minn.

RABBITS

Raise giant Chinchilla rabbits. Year round income. Ideal occupation. Tremendous demand for gorgeous furs, delicious meat. Great scarcity means large profits. We buy your youngsters. Willow Farm, R. 47, Sellersville, Pa.

SEEDS

SEEDS OF HONEY PLANTS. Forty varieties especially selected for nectar. Free illustrated circular featuring unusual new plants. Pellett Gardens, Atlantic, Iowa.

TURKEYS

RAISE TURKEYS THE NEW WAY. Write for free information explaining how to make up to $3000.00 in your own back yard. Address: National Turkey Institute, Dept. 253, Columbus, Kansas.

MAGAZINES

THE BEE WORLD—The leading journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free. 12 cents in stamps. Membership in the Club including subscription to the paper, 10/6. The Apis Club, L. Illingsworth, the Way's End, Foxton, Royston, Herts, England.

THE INDIAN BEE JOURNAL—The only bee journal in India. Sample copy against 25 cents (or 1s 6d.) postage stamp. Yearly, 7s' 6d, ($1.50) International Money Order. Apply Bhupen Apiaries, (Himalayas) Ramgarrh, Dist Naini Tal. U. P. India.

WESTERN CANADA BEEKEEPER—Official organ of the Manitoba Beekeepers' Association. One year, $1.00; in combination with one year's subscription to Gleanings in Bee Culture, $2.25. Wallingford Building, Winnipeg, Canada.

Read the South African Bee Journal to be conversant with conditions from far afield. Subscription 5/ per year. For further particulars write the Hon. Treasurer, E. E. A. Leach, Box 57, East Rand P. O. Transvaal, South Africa.

ANGORA GOATS

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser, Hotel Cactus, San Angelo, Texas, the only ranch magazine published serving the Angora Goat Industry. Subscription—$1.50. Sample copy, fifteen cents.

TOO LATE TO CLASSIFY

FOR SALE—10-frame deep supers with nice drawn extracting combs. Guaranteed no disease. $5.00 each. Irvin Van Devier, Medina, Ohio.

FOR SALE—6 colonies of bees, inspected, supers, equipment, and 2-frame extractor.—Maurice Forkey, Brushton, Rt. 1, New York.

EXPERIENCED MAN, married or single, year round work. Must be honest and industrious, no tobacco user or drinker. State age, height, weight. Prefer to pay wage and percentage of crop. References exchanged. T. J. Rowe, Arlee, Montana.

MORRISON'S
Leather Colored Queens

Northern Bred — They Satisfy

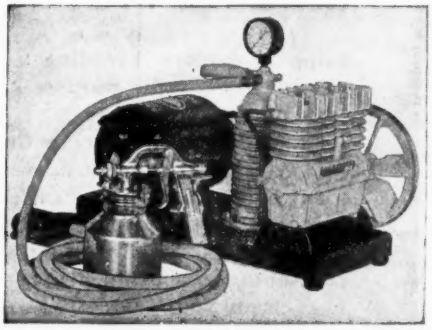
Mr. Olfred Zelger, Union Grove, Wis., writes, Aug. 12, 1946:

"Please send me 2 queens. I bought one of you last year and she hit the record this year, producing 3 standard bodies and 2 shallows full of honey. She is outstanding in every way—my best queen in 15 years of beekeeping".

Price, $1.25 each

West Branch Apiaries
Grover Hill, Ohio

SPRAY PAINT BEEHIVES



A practical paint sprayer for beehives, extractor rooms, etc.

The compressor has 4 cylinders, 1⅜" bore, 1⅝" stroke, and insures complete freedom from pulsation. Condensing chamber for eliminating moisture and oil. Operates from ¼, ⅓, or ½ h.p. single phase electric motor or ¾ or 1 h.p. gas engine. Air displacement 3.6 c.f.m. to 5.2 c.f.m.

Spray gun needle type, bleeder style 25 lbs. to 50 lbs. pressure, wide fan or small spray; 1 quart capacity aluminum can.

Cat. No. N98—Four cylinder Paint Sprayer, belt, 15 ft. air hose, spray gun, without motor, 48 lbs.,

$67.50

Motors available in ¼ h.p., ½ h.p., and ¾ h.p. in limited numbers.

The A. I. Root Co. Medina, O.

QUEEN TRANSFERRING TOOL

Pierce Patent

Slide the tool point down the wall of the cell to the bottom. A pressed spring automatically picks up the larva and jelly. Release the spring and the larva and food is dislodged. Handles the tiniest larva easily and readily.

Price: $2.75 **Extra Points: $.25**

Macy Electric Knife Company, Inc.
1239 S. Lorena St. Los Angeles 23, California

Queens . . .

one of the world's leading strains of Light Colored Italians, airmail postpaid, fresh from our breeding yards. All queens have one wing clipped half way for your convenience in handling.

Our breeding stock is selected, first, for prolificness of queen; secondly, for high honey production of workers; thirdly, for gentleness of bees; fourthly, for appearance of bees and queens.

From a modern breeding establishment ideally located geographically for the purpose.

To Beekeepers in Foreign Countries—

We have had considerable experience in airplane shipment of queen bees. Past experience leads us to believe that shipping queen bees around the world will soon become common practice. The present system of world airlines and their continuing expansion makes this possible. We will be glad to hear from you.

For a decade we have served the beekeepers of a continent. Our wish is to continue to enjoy your good will.

30% discount on queen bees for the balance of the season. — Off prices below —

Lots	
1-5	$1.55
5-15	1.50
15-25	1.40
25 up	1.35

Small orders, cash in full. Large orders, 20% deposit, balance to be received two weeks before shipping date.

• • • • •

The Daniels Apiaries

Picayune, Mississippi

GOOD NEWS!

FULL LINE OF

Continental Honey Cans

AGAIN AVAILABLE

2½ lb. Single Friction Top Can;
5 lb. and 10 lb. Pail; and 60 lb. Square Can.

Call the Nearest Continental Distributor

ALAMEDA, CALIF.
G. T. Hansen Co.

DENAIR, CALIF.
Snider Honey Co.

LONG BEACH, CALIF.
J. E. Delgado & Co.

LOS ANGELES, CALIF.
Bryant & Cookinham, Inc.
California Honey Co.
Diamond Match Co.
Hamilton & Co.
Los Angeles Honey Co.

SAN FRANCISCO, CALIF.
E. F. Lane & Son

DENVER, COLO.
Bluhill Foods, Inc.

GREELEY, COLO.
L. R. Rice & Sons

MONTROSE, COLO.
Western Colorado
Honey Exchange

WENDALL, IDAHO
R. D. Bradshaw & Sons

CHICAGO, ILL.
A. I. Root & Co.

HAMILTON, ILL.
Dadant & Sons

COUNCIL BLUFFS, IOWA
A. I. Root & Co.

McGREGOR, IOWA
John Harnack & Sons

SIOUX CITY, IOWA
Sioux Honey Assn.
G. B. Lewis Company

PADUCAH, KENTUCKY
The Walter T. Kelley Co.

GRAND RAPIDS, MICH.
A. G. Woodman & Co.

ONSTED, MICH.
L. M. Hubbard Apiaries

MINNEAPOLIS, MINN.
Mondeng Mfg. Co.

MOORHEAD, MINN.
Northwestern Supply Co.

WINONA, MINN.
Robb Bros.

HIGGINSVILLE, MO.
Leahy Mfg. Co.

MANHATTAN, MONT.
Cloverdale Apiaries

ALBANY, NEW YORK
G. B. Lewis Company

CROTON, NEW YORK
Finger Lakes Honey
Prod. Coop. Inc.

SYRACUSE, NEW YORK
A. I. Root & Co.

FARGO, N. D.
Magill & Co.

SAN ANGELO, TEXAS
Bart Mann Co.

SAN ANTONIO, TEX.
A. I. Root & Co.

SALT LAKE CITY, UTAH
Miller Honey Co.

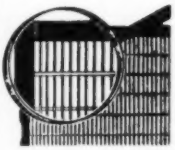
LYNCHBURG, VIRGINIA
G. B. Lewis Company

WATERTOWN, WIS.
G. B. Lewis Co.

POWELL, WYO.
A. D. Hardy

Continental Can Company, Inc.

THE ONLY WORTHWHILE
QUEEN EXCLUDER
on the market



Chrysler's All Steel Electric Welded Queen Excluder allows maximum bee passage, better ventilation, more honey production. No wood, no sharp edges to injure bees, no burr combs. New rust proofing process. So durably made and accurately spaced that it is permanently Queen excluding and will last a lifetime. Sales increasing steadily each year. Present price, 78c each. For earliest delivery place your order at once. Send for circular E-2.

W. A. CHRYSLER & SON
Chatham - Ontario - Canada

Now booking orders for 1948
Leather Colored Ialian Queens
and Package Bees
Write for Prices
LYNN WILLIAMS
Rt. 3 Oroville, Calif.

Bees and Queens
Italians - Caucasians and
Daughters of Queens
Bred for Resistance
Over 30 Years a Shipper
Send for FREE Circulars
BLUE BONNET APIARIES
Weslaco, R 2, Box 23, Texas

THE BEEKEEPERS' MAGAZINE
"A Little Independent"
Special Offer: 6 months $1
(regular rate—$2 per year)
The Beekeepers' Magazine
3110 Piper Road, Lansing 15, Mich.

Canada's
National Monthly Magazine
for Beekeepers
Canadian Bee Journal
54 Bloor St., W., Toronto 5, Ont.
U. S. Subscription Price,
only $1.25 per year

RAISE RABBITS
Ready market for Food and Fur,
our journal teaches you how.
3 years, $1.00. Sample, dime.
Standard Rabbit Journal
Box 2416 Milton, Pa.

We Thank
All our customers who were so cooperative and considerate during the trying 1947 season. We are working hard to prepare for the 1948 season.
GIRARDEAU APIARIES, Tifton, Georgia
Italian Package Bees and Queens

NEW DESIGN ELECTRIC UNCAPPING KNIFE

$12.00

110-130V AC ONLY

- THERMOSTAT CONTROL
- EVEN TEMPERATURE
- FASTER OPERATING
- LIGHT WEIGHT

Macy Electric Knife Company
INC.
1239 S. Lorena St. Los Angeles 23, Calif.

BESSONET'S ITALIAN QUEENS

Breeding stock selected in the North personally by E. C. Bessonet. The best from thousands of colonies provide better queens for you.

Prices: 1-24 ... $1.10 25-99 ... $1.00 100 up ... 90c

Bessonet Bee Company, Donaldsonville, La.

QUEENS
Leather Italians

Our queens are especially bred to resist extreme cold winters. We use only the large mating boxes with lots of honey and bees. This insures fully developed, large, vigorous queens. Price: $1.00 each.

Apiaries accredited and certified by the Alabama State Department of Agriculture.

O. K. Anderson & Son Apiaries

Box 193 Coffee Springs, Alabama, U. S. A.

CAUCASIANS

Extra gentle, prolific, long tongue, little inclined to swarm, dependable workers—10% to 40% ahead of the average Italians. Foundation stock from the mountainous region of Terek, Caucasus.

CARNIOLANS

Build up rapidly even during unfavorable springs. Prolific at all times, very gentle, best of workers, 36th year with them.

PRICES: Untested queens .... $1.00 each
Tested queens ..... 1.75 each
Queens by Airmail, 6c extra per queen

August is a good month to requeen and prepare for the season of 1948.

Albert G. Hann, Glen Gardner, N. J.

Northern Bred Leather Colored
ITALIAN QUEENS
$1.00 Each

Queens clipped or airmailed at no extra cost. All queens mailed in our adjustable introducing cage.

Diemer Bee Co.
Rt. 2, Box 7, Liberty, Mo.

QUEENS - - - QUEENS

Three Band Italians, the best that can be raised. We specialize in raising queens of good quality. A health certificate is sent with every order.

Satisfaction Guaranteed

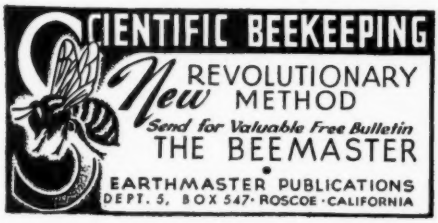
1 to 25	$1.25 each
25 to 50 ...	1.20 each
50 up	1.15 each

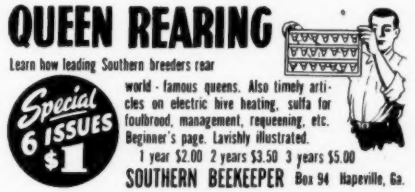
Alamance Bee Company
Geo. E. Curtis, Mgr.
Graham, N. Carolina

ITALIAN QUEENS

Hardy, vigorous, prolific.
$1.00 each.

B. J. Bordelon Apiaries
Moreauville, La.




QUEEN REARING
Learn how leading Southern breeders rear
Special 6 ISSUES $1
world-famous queens. Also timely articles on electric hive heating, sulfa for foulbrood, management, requeening, etc. Beginner's page. Lavishly illustrated.
1 year $2.00 2 years $3.50 3 years $5.00
SOUTHERN BEEKEEPER Box 94 Hapeville, Ga.

JENSEN'S

"Magnolia State" Strain Italians and Daughters of Dadant Resistant Breeders

All of superlative quality. Never in all of our 33 years commercial queen rearing have we seen finer queens. Their beauty goes beyond the appearance of the queens themselves. Their progeny are beautifully and uniformly marked, (not too yellow, but distinctive brownish leather colored) hardy and above all, good producers. The combs of brood they fill would be the joy of any owner, and the envy of every beekeeper using ordinary queens.

Requeen NOW with Jensen's queens. The sooner this important job is done now the better to assure that winter cluster of strong young bees so essential for successful wintering.

Prices:
"Magnolia State" stock. 1-24, $1.20 ea.; 25-99, $1.10 ea.; 100 up, $1.00 ea.

Daughters of Dadant's Resistant Breeders, tested for resistance to American foulbrood, selected for production, gentleness, and mated to drones of Resistant stock that have also been tested.

1-9, $1.65; 10-49, $1.55;
50-99, $1.45; 100 up, $1.40 each.
"Right Now Service" and
live delivery guaranteed.

Jensen's Apiaries
Macon, Miss.

Gentle Northern Queens

From Tested 3-Banded Italian Breeding Stock

This hardy improved strain of bees are being reared under natural conditions here in the NORTH.

Prices June 1st to October 20th:

Untested Queens	(each)	$1.35
Tested Queens in large cages	(each)	2.25
Export Queens	(each)	4.75

20% in U. S. Funds will confirm order. Balance before shipment is made.
We ship Airmail postpaid
Prompt Service, Satisfaction

Barger Apiaries
Carey, Ohio

OUR BEST QUEENS

Are reared during the buckwheat flow in August and September. With our usual prompt service, this is the ideal time to requeen with Hollopeter reared Northern Bred Italian stock.
Young mated and laying queens, $1.00 each Safe arrival and satisfaction guaranteed.

White Pine Bee Farms
Rockton, Pa.

"Yes", Queens Via Return Mail

No Delays

I ship when you want them

Price List

Select Untested Queen Bees

1-24	$1.10 each
25-99	1.00 each
100 up	.90 each

Tested Queens double the price of Untested Queens.

Pure mating and safe arrival guaranteed.

W. E. Harrell

Hayneville, Alabama

Queens by return mail Thanks

To our many customers for their patronage this season. We can still furnish you with queens and package bees.

Untested queens	$1.00 ea.
Tested queens	2.00 ea.
2-lb. pkg. with queen ..	4.25 ea.
3-lb. pkg. with queen ..	5.50 ea.

KEEP US IN MIND
for quantity and quality bees and queens for 1948. Again, Thank you.

Norman Bros. Apiaries
Ramer, Ala.

Requeening and Increasing

Use young laying queens
Italian 3-Banded Leather Colored Bees
Prices till October 31:

$1.00	Untested, each	$1.00
$1.50	Tested, each	$1.50

Postpaid, Air Mail, with health certificate and directions. Prompt service. We satisfy.

Gooch Apiaries
Farmersville, Texas

Above photo shows part of our queen yards containing over 10,000 nuclei

Italian Bees with Young Queens

PRICES:

	1 to 9	10 to 49	50 to 99	100 and up
2 lb. pkg. with queen (each)	$4.50	$4.25	$4.15	$4.00
3 lb. pkg. with queen (each)	5.65	5.40	5.30	5.15
4 lb. pkg. with queen (each)	6.80	6.55	6.45	6.30

Queens (each) $1.35 Tested $2.00

Overbey Apiaries, Bunkie, La.

LIVE AND LEARN

(Continued from page 467)

outside hive, but since I wanted to see what would happen, I put on a feeder. No trouble at all, because the guards could take care of their end of it, and how that weak little colony did pick up. Inside of a week, I opened the entrance to full width, the fall flow started, and they did so well that I tried the experiment of wintering them. It didn't work.

GEORGIA BEE REGULATIONS

(Continued from page 491)

for treatment of foulbrood or when beekeepers have been deputized to inspect their own bees by the State.

"4. When the Director of Entomology or his deputies shall find foulbrood repeatedly in bees shipped from another State under official certificates of inspection, the Director thereafter shall refuse to recognize the certificate of such State until such time as he shall receive satisfactory information that its inspection service has again become trustworthy.

"5. Permits will not be granted for the movement of bees in hives into Georgia unless they are actively rearing brood.

"6. Permits will not be granted for movement into Georgia of second hand or used honey comb unless such honey comb is in the hive actively rearing brood.

"7. Permits will not be granted for the movement of bees on comb into Georgia from any State which refuses entrance of bees on comb from the State of Georgia.

"8 The Director of Entomology will enter into reciprocal agreements with any State for the movement of bees into the State of Georgia.—C. H. Alden, Director
Georgia Department
of Entomology".

The following suggestions should be followed: When the beekeeper applies for permit and sends his certificate, he should also list the number of colonies he wants to move in, the Georgia town or county location, and date of entry. As the Georgia Inspectors plan to inspect the bees on arrival, the beekeeper should plan to stay in Georgia until inspection is completed. If bees are found diseased upon arrival they will have to be moved out of the State or destroyed as provided by law. Remember, it is illegal to move bees on comb into this state without a Georgia permit and inspection certificate from the State of Origin. The penalty for violation of the Georgia Bee Law is a fine of up to $1000.00, or one year in jail, or both, at the discretion of the Court.

Georgia does not want to stop the migratory movement of bees in and out of the State; however, with disease increasing, caused directly by this movement, it becomes necessary to establish better laws and regulations to protect Georgia Bee Culture.—A. V. Dowling, Chief Bee Inspector
C. H. Alden, Director
Ga. Dept. of Entomology

Look for this Sign
When You Want
QUALITY AT LOW COST

U. S. Pat. Off.
Trade Mk. Reg.

KELLEY — "The Bee Man"

QUEENS

(1-4)

$1.00 each

5 to 24 ..... $0.90
24 to 99 ..... .85

Young 3 banded Italian laying queens fresh from our yards, guaranteed purely mated and satistory. Health certificate with each shipment.

SHIPPED PREPAID AIRMAIL

The Walter T. Kelley Co., Paducah, Ky.

Looking to 1948

Providing for over ten years a continually improved stock of disease resistant queens and package bees, the IOWA BEE-KEEPERS' ASSOCIATION has and still is making a definite contribution to beekeepers. The specialized talents of a number of research workers are responsible for the present high standard of this stock.

Write the association for information on prices and membership.

Iowa Beekeepers' Ass'n.
State House, Des Moines, Iowa

PACKAGE BEES AND QUEENS

Leather Colored Italians
Bred for Production

Prices of Package Bees and Queens:

Lots of:	2 lb.	3 lb.	Ex. Queen
1 to 24	$4.00	$5.00	$1.25
25 to 99	3.85	4.80	1.10
100 or more	3.75	4.70	1.10

Terms: 25% deposit to book order, balance ten days before shipping date. We replace any bees that die in transit if it our fault. If it is the carriers' fault, file claim with them. We start shipping February 1. Old customers will be given preference.

The Island Apiary

Collier City, Fla.

We Want Large Quantities of Honey

This Is How to Sell Us Your Honey

Write us giving this information:
(1) Quantity available, (2) Your lowest acceptable price, (3) How packed, including whether in new or used cans and cartons or wooden cases, (4) How soon you can ship, (5) Your name, address, shipping station, telegraph address, and telephone number.

Send up a good sized sample of each grade labelled with name, address, and quantity sample represents.

Payment: Carloads on arrival after our examination and approval of quality. Attach draft to bill of lading which must be inscribed "Permit Inspection". Less carload shipments payable ten days after arrival and approval of quality.

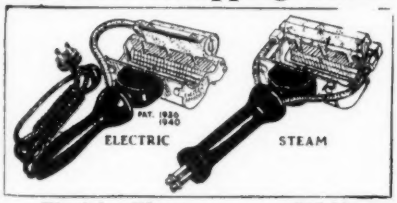
Reference: The National City Bank, 32nd Street and Park Avenue, New York 16, N. Y.

R. B. Willson, Inc.

150 East 35th Street, New York 16, N. Y.
Tel. MUrray Hill 3-3437

Modern Beekeeping
The picture magazine of beekeeping. We show you with pictures how to do the job easier, quicker, and better. Special inventor's page. One year, $1.00. Free sample copy.
Modern Beekeeping
Paducah, Kentucky

NEW IMPROVED
Rosedale Steam and Electric Uncapping Plane



Electric Plane	$12.00
Steam Plane	7.50
Ext. Copper Blades	.75

Shipping weight, steam planes 2 lbs. Electric 3 lbs. Delivery charges extra.
JOHN J. MAENDEL
Portage La Prairie
Manitoba, Canada.

Now That We Have Your
ATTENTION

Send us a small sample of your white or amber extracted honey and name us your best price, freight paid to Cincinnati, also state how it is packed.

We also buy pure beeswax. Can pay 46c per pound today, freight paid to Cincinnati. Ship your old comb or cappings to us for rendering into beeswax.

We are unlimited buyers of HONEY or BEESWAX. Remittance mailed promptly.

Send for our 1947 price list

The Fred W. Muth Co.
Pearl & Walnut St.
Cincinnati 2, Ohio

QUEENS QUEENS

Tanquary's Italian Queens

We have on hand a good stock of TANQUARY'S good young ITALIAN QUEENS. Ready to serve you. Try our queens, see for yourself. For best results a beekeeper should keep every colony headed with a good young queen—for better colonies, for better crops, for better wintering.

Order Now

	1 to 5	6 to 49	50 to 99	100 up
Queens	$1.30	$1.25	$1.10	$1.00
2-lb. pkgs. bees	4.25	4.10	3.95	3.75
3-lb. pkgs. bees	5.25	5.10	4.95	4.75

For queenless packages deduct $1.15 per package

Queens Postpaid - - - - Package Bees F. O. B.

Payable in U. S. Funds

Tanquary Honey Farms, Inc.

Lena, South Carolina

QUEENS Fall Queens a Specialty QUEENS

You send the order; I have the queens

LEATHER COLORED ITALIAN QUEENS
MIDDLE TENNESSEE APIARIES

1 to 25, $1.35; 26 and up, $1.20—From Imported Strains. ¼ books orders. Balance before shipping. All queens clipped and by air mail at no extra cost. (All Queens after June 15, $1.00)

J. B. TATE & SON
1029 No. 4th St., Nashville 7, Tennessee Tel. No. 34509M

Better Bred Queens 3-Banded Italians

Plenty good queens from our famous Better Bred strain that have proven their merit for years. If you were not fortunate enough to get your packages this spring, replace all old and failing queens and watch them build up fast.

Queens, any quantity, 80c each. Prompt delivery.

Calvert Apiaries, Calvert, Alabama

Leather Italian Queens

We guarantee every queen that we ship out to be mated and her laying ability proven.

We also guarantee that there are no gentler Leather Italians with equal storing ability; they will not swarm unless badly neglected.

For your Fall requeening, please order early enough so that you will have ample time to check your colonies and receive replacement for any Queen that fails to live up to our guarantee.

Prices

	Queens	2-lbs.	3-lbs.	4-lbs.
1-24	$1.10	$4.20	$5.55	$6.90
25-99	1.00	3.95	5.25	6.55
100-up	.90	3.70	4.95	6.20

Health certificates sent with each shipment.
Queens prepaid. Clipped or by Air Mail at no extra cost.

Rich Honey Farms

Jeanerette, Louisiana

We wish to thank all our customers for the kind consideration they have given us in regard to the lateness of our shipments. A combination of adverse conditions made regular scheduled shipments impossible.

GARON'S QUEENS

THREE-BANDED ITALIANS
Mraz's Strain Bred for Resistance to AFB

Health Certificates on all Shipments

This is a good time to requeen. Old worn out queens are unprofitable.

Prices:	1 to 25	26 to 99	100-up
	$1.10	$1.00	$ .90

Queens Clipped and Airmailed at no extra cost.

Garon Bee Company **Donaldsonville, La.**

Sunkist Italian Queens

Why tolerate a failing queen or one that will fail before next season? It takes bees—plenty—to gather a surplus. You do not want a queen that takes all season to build up.

We offer you young mated, sturdy queens—health certificate—live delivery. Queens clipped—Air mail postpaid. Prices after July 1, until further notice:

1-25 85c 25-up 80c

Sunkist Bee Company, Convent, La.

QUEENS

Lots of Nice Young Queens for Immediate Shipment Both Italians & Caucasians

We have about finished package shipments for this season, and are devoting our entire time to the production of good queens. If you need them for queenless colonies, requeening, or making increase, we can supply your needs promptly at the following prices:

1-24	$1.10 ea.
25-99	1.00 ea.
100-up	.90 ea.

Clipped or Airmailed at no extra cost.

The Stover Apiaries

Mayhew, Miss.

We Thank You . . .

for your orders this spring also the patience you exhibited. It was always our desire to deliver your order at the time you specified, however conditions beyond our control prevented our doing it this spring.

We are increasing our package colonies for another year, so that we can produce greater quantities of bees.

Our shipping season closed on our scheduled time without failing to deliver a single order unless canceled.

Your 1948 orders will be given the best in quality and service.

Rossman & Long

P. O. Box 133, Moultrie, Ga.

Facts About Our National Federation

The National Federation of Beekeepers' Associations

was started over four years ago in Chicago

(1) It is a Federation of beekeepers' associations doing for beekeepers on a national scale some of the things that are impossible when attempted on a local or state basis.

(2) The policies are formulated by the Executive Committee comprised of ten regional representatives together with the President, Vice-President, and Secretary-Treasurer.

(3) The Secretary-Treasurer, Glenn O. Jones, is bonded in an amount in excess of any sum likely to be under his control. Accounts are audited annually.

(4) Beekeepers' Associations affiliate with the Federation by the papment of five cents per member with a minimum fee of $5.00 Nearly all associations are now affiliated.

(Continued in next issue)

In the meantime send contributions to:

Sec.-Treas. Glenn O. Jones, Atlantic, Iowa.

XUM

Glass Containers

1 lb. jars, 24 in ctn.	**$ .75**
2 lb. jars, 12 in ctn.	**.49**
5 lb. jars, 6 in ctn.	**.44**
8 oz. jars, 24 in ctn.	**.64**
14 oz. Special tall olive type jars, 24 in ctn.,	**.87**

All our glass containers are clear, include **white** caps, and are packed in cartons that conform to the new government regulations for cartons that are to be reshipped.

If your order for glass totals $50 you may deduct 5%; if it amounts to $100 or more, you may deduct 10% from the above prices.

All prices are f. o. b. Columbia, S. C. and are subject to change without notice.

* * * * *

Wooden Goods Special

The prices listed below are good only as long as our present stock lasts. This is our regular line of high quality equipment, and we are able to offer these extra low prices only because we were able to buy a large quantity of lumber and aluminum at a reduced price.

Metal Covers, telescoping on all four sides, complete with nails and pure aluminum covering .... five for $6.75

Bottom Boards, standard reversible type, made from 100% pure cypress ..... five for $4.50

Hive Bodies, empty, made from cypress or good quality pine, whichever is available ..... five for $5.75

Shallow Ext. supers, empty, for 5⅜ frames ..... five for $4.25

All equipment is furnished in ten frame size and is completely dovetailed.

* * * * *

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Central Michigan
Headquarters
for
HONEY
CONTAINERS
Michigan's most
Complete stock for
Extracted Comb and
CUT COMB PACKAGES
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M. J. BECK CO.
510 N. Cedar St. Box 7
Lansing 1, Michigan

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Never has so effective a program been set up to correct the ills which up to now have plagued the industry. Our program prescribes the remedy. The cure is up to you, Mr. Beekeeper.

No Money Asked

Now the cure—Market Cooperatively—contact one of the honey marketing cooperatives near you whose program is dedicated solely to the interests of its producers.

Want To Know More

Drop a line to one of the following:

Sioux Honey Association, 509-11 Plymouth St., Sioux City, Iowa.

Finger Lakes Honey Producers Cooperative, 206 West South Street, Groton, New York.

Orange Empire Producers, 512 West Champlain Avenue., Orange, California.

Illinois Honey Producers, Mt. Sterling, Illinois.

Ohio Apiaries Cooperative Association, Delaware, Ohio.

Or To

National Council of Honey Marketing Cooperatives
139 West William Street
Delaware, Ohio

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KELLEY — "The Bee Man"

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ON
TIN AND GLASS

1 lb. honey jars, ctn. 24 .... 70c ea.
2 lb. honey jars, ctn. 12 .... 45c ea.
5 lb. honey jars, ctn. 6 .....
24 cartons $10.25
Ctn. 50 5 lb. tin pails $3.75
Ctn. 50 10 lb. tin pails 5.50
Ctn. 16 60 lb. tin pails .....
2½" screw cap $6.50

Shipment from our Paducah stock same day order is received. No limit—carloads in stock. 5% discount on $50.00 and 10% on $100.00 orders.

The Walter T. Kelley Co., Paducah, Ky.

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Write for prices for having your wax made up or outright purchase of

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R. 4 Bay City, Mich.

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½-lb. jars, ctn. 24, wt. 9 lbs. ... $0.67
1 -lb. jars, ctn. 24, wt. 12 lbs. ... .78
2 -lb. jars, ctn. 12, wt. 11 lbs. ... .53
5 -lb. jars, ctn. 6, wt. 10 lbs. ... .47
5 -lb. tin pails, ctn. 50, wt. 25 lbs. 4.10
5 -lb. tin pails, ctn. 100, wt. 46 lbs. 7.30
10-lb. tin pails, ctn. 50, wt. 44 lbs. 6.10
60-lb. sq. cans, ctn. 24, wt. 72 lbs. 9.10
2 60-lb. sq. cans in wood ship. cs. 1.40
Label Paste for glass or tin, 60c can
Label samples and prices sent on request.

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also
Wooden display and reshipping cases for comb honey.

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Prices f.o.b. Boyd, and subject to change without notice.

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Boyd Wisconsin

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